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December 13, 2018

U.S. Environmental Protection Agency Region III
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Subject: Shiloh Church Road Site
EPA Contract No.: EP-S3-15-02
TDD No.: W501-18-04-005
Document Control No.: W0206.1A.02495

Dear Ms. Chris Wagner:

Weston Solutions, Inc. (WESTON®) is submitting the Final Trip Report for the Site Removal Assessment for the Shiloh Church Road Site (the Site) located in Nathalie, Halifax County, VA. This Trip Report summarizes the field activities and analytical results of the sampling and site assessment activities conducted at the Site from April 27, May 15 to 18 and July 23 to August 1, 2018. If you have any questions regarding this report, please call me at [REDACTED] Non-responsive based on revised scope

Sincerely,

WESTON SOLUTIONS, INC.
Non-responsive based on revised scope
[REDACTED]

Enclosure

cc: TDD File
Non-responsive based on revised scope (WESTON)
[REDACTED]

FINAL TRIP REPORT

SHILOH CHURCH ROAD SITE NATHALIE, HALIFAX COUNTY VIRGINIA

**EPA CONTRACT NO.: EP-S3-15-02
TECHNICAL DIRECTIVE DOCUMENT NO.: W501-18-04-005
DOCUMENT CONTROL NO.: W0206.1A.02495**

Prepared For:



**U.S. Environmental Protection Agency Region III
Hazardous Site Cleanup Division
1650 Arch Street
Philadelphia, PA 19103**

Prepared By:



**Weston Solutions, Inc.
1400 Weston Way
West Chester, PA 19380**

December 2018

FINAL TRIP REPORT
SHILOH CHURCH ROAD SITE
NATHALIE, HALIFAX COUNTY, VIRGINIA

Non-responsive based on revised scope
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Prepared by: _____ Date: 12/13/2018

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Approved by: _____ Date: 12/13/2018

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Approved by: _____ Date: _____

USEPA On-Scene Coordinator
Chris Wagner

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1.0 INTRODUCTION

Under the Eastern Area Superfund Technical Assessment and Response Team (START) Contract No. EP-S3-15-02, Technical Direction Document (TDD) No. W501-18-04-005, the United States Environmental Protection Agency (EPA) Region III tasked Weston Solutions, Inc. (WESTON®) to conduct a removal assessment of the Shiloh Church Road Site (the Site) at the Former R.A. Guthrie's Store and Scrap Yard. The Site is located at [Non-Responsive] L. P. Bailey Memorial Highway and [Non-Responsive] L. P. Bailey Memorial Highway in the unincorporated community of Nathalie, Halifax County, Virginia. The purpose of this assessment was to perform additional investigation and sampling based upon the previous findings at the Site. EPA will evaluate the findings to determine whether additional actions are warranted.

During this removal assessment, WESTON performed the following:

- Observed site drums, cylinders, small containers, and transformer remnants.
- Conducted a gamma radiation walkover survey to assess radioactive items on-site.
- Collected surface and subsurface soil samples.
- Collected groundwater samples from on-site monitoring wells and nearby residential wells.
- Collected surface water and sediment from a pond west of the Site.

The results from these soil and water samples, drum samples, and the gamma radiation survey will be used by EPA to determine whether additional actions are necessary to protect human health and the environment.

This Trip Report provides documentation of the site activities conducted by WESTON in accordance with the Final Field Sampling Plan (FSP), Shiloh Church Road Site (WESTON, 2018a) and the *EPA Region III START 5 Program-Wide Uniform Federal Policy-Quality Assurance Project Plan* (UFP-QAPP) (WESTON, 2015a).

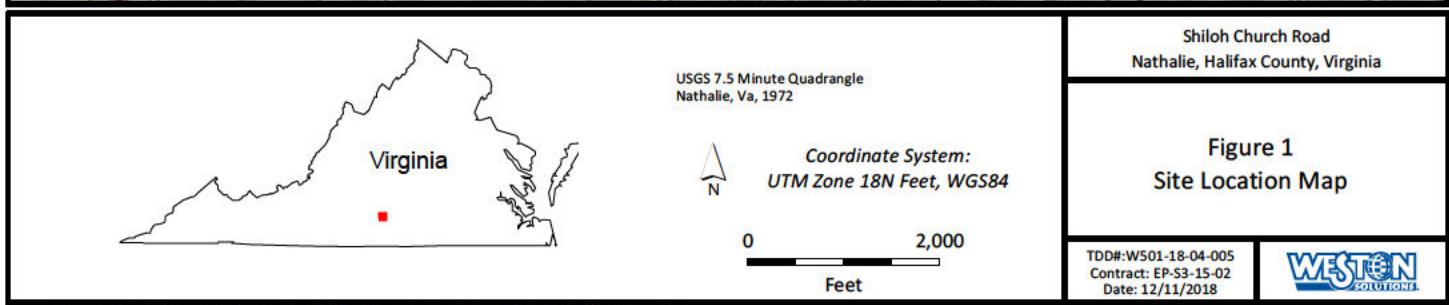
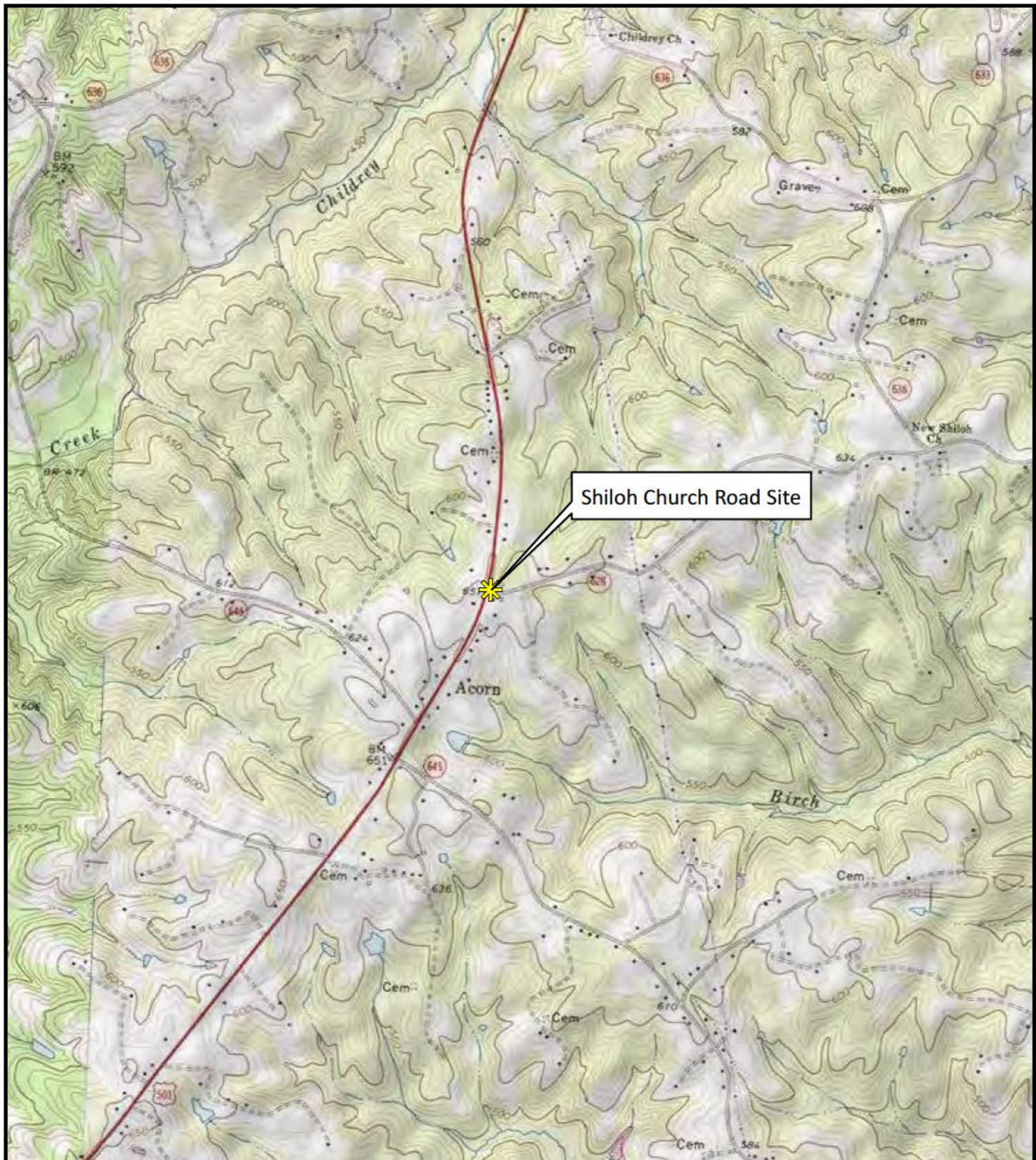
2.0 BACKGROUND

This section presents the site location, site description, and site history.

2.1 SITE LOCATION AND DESCRIPTION

The Site is located adjacent to the east side of L. P. Bailey Memorial Highway (U.S. Route 501) at the intersection of Shiloh Church Road (Virginia State Route 626) in Nathalie, Halifax County, Virginia, as shown on Figures 1 and 2. The Site includes parcel numbers [REDACTED] and [REDACTED] located north and south of Shiloh Church Road, respectively. The approximate geographic coordinates between the two parcels of the Site at the intersection of Shiloh Church Road and L.P. Bailey Memorial Highway are [REDACTED] north latitude and [REDACTED] west longitude. The Site is surrounded by several residential properties, undeveloped woodlands, agricultural fields, and an orchard. Nathalie, Virginia, has a population of approximately 183 people.

The Site consists of two parcels, one south and one north of Shiloh Church Road. The south parcel is occupied by a structure, a former convenience store that also functioned as a gasoline station. The north parcel operated as a former scrap metal processing and storage facility and has a residence along the northern parcel boundary.





Legend

- Site Boundary
- * Site Address

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

0 50 100 150
Feet

Shiloh Church Road
Nathalie, Halifax County, Virginia

Figure 2
Site Layout Map

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/13/2018



2.2 SITE HISTORY AND PREVIOUS INVESTIGATIONS

A Phase II Environmental Site Assessment (ESA) was completed in January 2018 by Hurt & Proffitt on behalf of the owner of the properties' owner. The goal of the Phase II ESA was to assess "inherent environmental risk associated with the historical usage of the Property as a convenience store and scrap metal material processing/storage facility" (Hurt & Proffitt, 2018). The Phase II ESA noted that "the subject property has been utilized as a convenience store (R.A. Guthrie's Store) and scrap metal material processing/storage facility from the mid-1960s until presumably the mid 2000's." (Hurt & Proffitt, 2018). The Phase II ESA investigated potential surficial and subsurface soil and/or groundwater impacts associated with the following:

1. The former presence of underground storage tanks (USTs) at the former convenience store.
2. The presence of scrap metal materials located on two parcels.
3. Potential polychlorinated biphenyl (PCB) oil-containing transformers and other oil-filled electrical components located within the scrap metal material storage area.
4. The storage of unidentifiable 55-gallon capacity steel drums and other steel and plastic containers along the northeastern extent of the scrap metal material storage area.

The Phase II ESA Executive Summary indicated that elevated concentrations of petroleum and chlorinated solvent constituents, PCBs, and metals were reported in soil samples. PCB Aroclor-1254 was detected at concentrations as high as 905,000 milligrams per kilogram (mg/kg) in one surficial soil sample. In addition to the PCBs detected in soils, the Phase II ESA Executive Summary noted other elevated concentrations of petroleum and chlorinated solvent constituents and metals. Potable water sample detections included tetrachloroethene (PCE) (13.8 micrograms per liter [$\mu\text{g}/\text{L}$]), trichlorofluoromethane (8.66 $\mu\text{g}/\text{L}$), barium (18 $\mu\text{g}/\text{L}$), and lead (11.1 $\mu\text{g}/\text{L}$). The PCE concentration exceeded the EPA National Primary Drinking Water Regulations Maximum Contaminant Level (MCL) of 5 $\mu\text{g}/\text{L}$ (EPA, 2018a). The lead concentration was slightly below the MCL of 15 $\mu\text{g}/\text{L}$. Hurt & Proffitt recommended that notifications be made to EPA Region III and the appropriate Virginia Department of Environmental Quality (VDEQ) regulatory agencies for these exceedances (Hurt & Proffitt, 2018).

3.0 SITE INVESTIGATION ACTIVITIES AND FINDINGS

Site activities were conducted from April to August of 2018. WESTON performed the following:

- Investigated, assessed, and documented site containers.
- Conducted a gamma radiation walkover survey to assess radioactive items on-site.
- Collected surface and subsurface soil samples.
- Collected groundwater samples from on-site monitoring wells and nearby residential wells.
- Collected surface water and sediment from a pond west of the Site.

Samples were collected from the Site as outlined in the FSP (WESTON, 2018a), with the exception of those deviations mentioned in the corresponding sections. WESTON documented site activities in accordance with WESTON Standard Operating Procedure (SOP) No. 101, Logbook Documentation (WESTON, 2015b). This section discusses sampling activities conducted during this assessment.

3.1 SITE RECONNAISSANCE AND UTILITY CLEARANCE

On May 15 to May 18, 2018, WESTON conducted a site reconnaissance of the site properties with EPA. Approximately 25 drums in poor condition were identified on the eastern corner of the northern parcel. Numerous compressed air cylinders with unknown contents were identified scattered across the northern parcel. Three low-level radioactive sources were identified during the site walk. Source gamma exposure was measured from 2 to 3 milliroentgen per hour (mR/hour) using a Ludlum Model 44-10 gamma detector. The components from former transformers identified in the Phase II ESA were observed on the southern side of the northern parcel. WESTON assessed potential areas for investigation of off-site migration pathways for contamination to properties adjacent to the Site.

On July 19, 2018, a utility markout was requested for the properties included in the assessment prior to subsurface soil boring investigation activities.

PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 1: View of the remnants of a transformer resting on PCB stained soil.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 2: View of another damaged transformer.

DATE: 31 July 2018

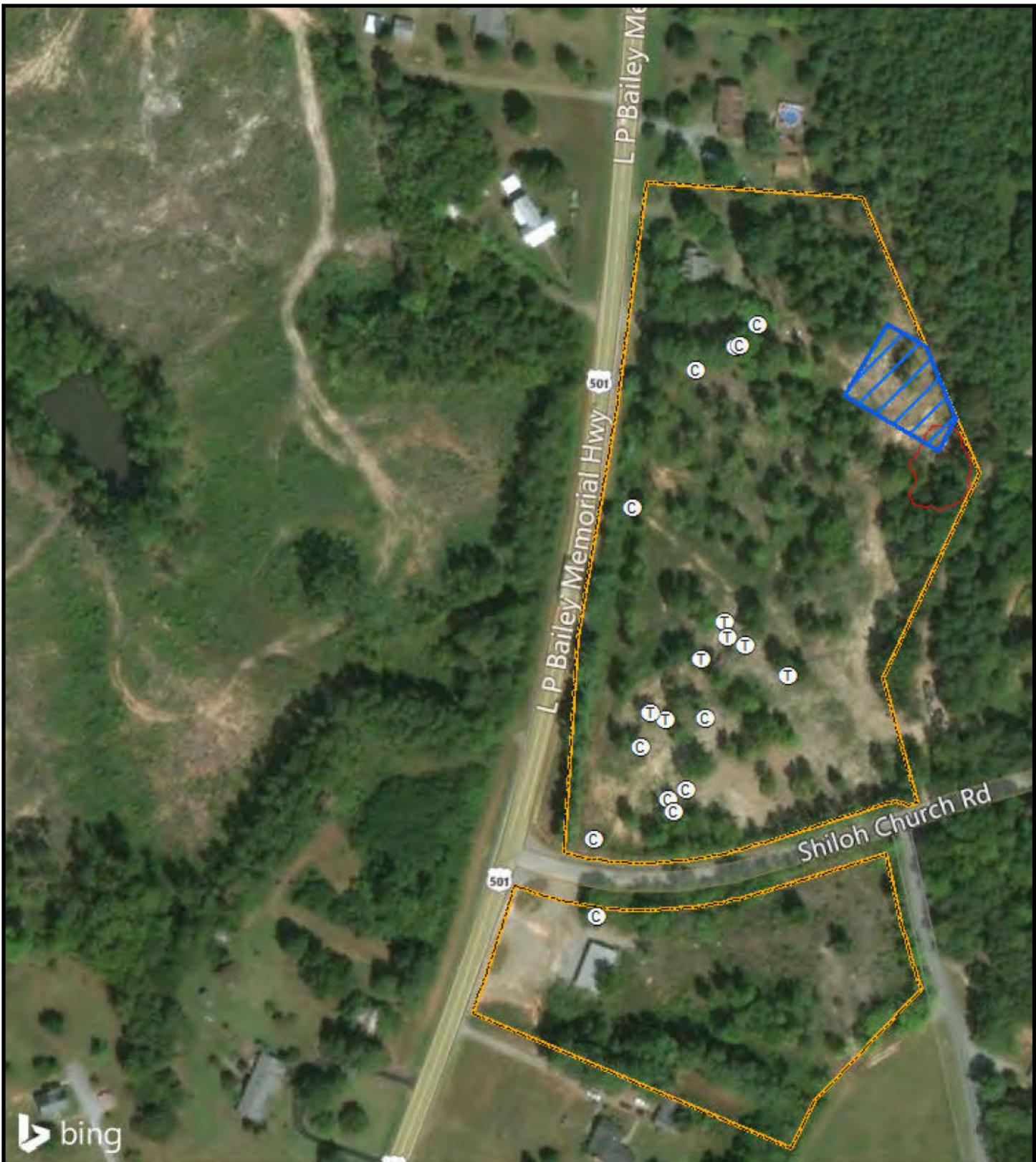
PHOTOGRAPHER: Weston START



3.2 SITE CONTAINER INVESTIGATION

3.2.1 ABANDONED DRUMS

WESTON conducted an assessment and inventory of the abandoned 55-gallon-steel drums on the northeast end of the Site, as shown on Figure 3. During the investigation, approximately 40 drums and drum remains were uncovered. The drums were observed in poor condition and rusted. Numerous drums were compromised with open holes, missing lids, and/or crushed. The drums were not easily accessible, disorganized, laid about, some stacked on their sides. Stained soil and open drums with solid material on the ground were observed, indicating drum contents had been released onto the ground surface. The drums were scattered around puddles of dark-colored standing water with observable sheen on the water's surface. Other small compromised containers were observed to be empty and/or leaking. During initial assessment activities, no odors were observed, and no elevated readings were recorded on field air monitoring instruments.



Legend

- (C) Cylinders
- (T) Transformers
- Drum Location Outline
- Estimated Photo Developer
- Fluid Bottles Location
- Site Boundary

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

0 150
Feet

Shiloh Church Road
Nathalie, Halifax County, Virginia

Figure 3
Container Locations

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/11/2018

WESTON
SOLUTIONS

Sampling of the drums was performed using Level B personal protection equipment in accordance with the Site Health and Safety Plan (WESTON, 2018b). Air monitoring was performed during all drum investigation activities. Head space monitoring was conducted of the drums when opened for sampling to document the contents' characteristics and determine whether materials were volatizing. The drums with contents were labeled with unique identifier numbers, i.e., D01, D02, etc. Empty drums were hand-labeled "MT" and were segregated from drums with contents.

A white solid material was observed in 12 drums, a volatile clear liquid was observed in two drums labeled "Isopropyl Alcohol" and in one drum labeled "Methanol Tech." One drum contained a residual black-oil-like liquid. Of the drums assessed, more than 16 drums were identified as empty or as containing residual material; 3 drums were full and unopened; and 4 had residual material and rain water. There were additional drums that were not assessed because they were buried by other drums. A representative seven drums were sampled for analysis for the different contents of the drums. A summary of the drum numbers, content of the drums, and the types of analyses is shown in Table 1, as follows:

Table 1 Drum Sampling Summary

Drum Numbers	Drum Contents Description	Sample Analysis of Samples
D02, D08, D10 (composite sample)	Solid white material	Metals analysis
D12, D18, D27	Volatile clear liquid	Ignitability and flammability; alcohols
D29	Black-oil-like liquid	Semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs)

3.2.2 DRUM SAMPLE RESULTS

Drum sample results are presented on Table 2. A composite sample of the solid white material was taken from three open drums (D02, D08, and D10) and was sent for metals analysis. In the solid white material composite, arsenic was detected at 0.97 micrograms per kilogram (mg/kg) and lead was detected at 5.6 mg/kg. Two of the three drums sampled for ignitability yielded a positive ignitable and flammable result, D12 and D18. Drum D12 was 91.4% methanol. The third drum containing clear liquid was identified as 71.5% water. PCBs were not detected in the black-oil-like substance sampled from drum D29. The same black liquid was analyzed for semivolatile organic



compounds (SVOCs) identified 2,4-dimethylphenol (9,390 µg/l), 2-methylphenol (57,800 µg/l), 3 & 4 methylphenol (243,000 µg/l), and phenol (53,700 µg/l).

Table 2
Drum Sample Results
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID:	SCR-0718-DrumSolid-00	
CLP Number:	MCOAH3	
Location:	Drums D02, D08, D10	
Type of Analysis:	Metals	
Matrix:	Solid	
Units:	mg/kg	
Date Sampled:	02-Aug-18	
Analyte	Result	Flag
Aluminum	85.3	
Antimony	5.6	U
Arsenic	0.97	
Barium	18.5	U
Beryllium	0.46	U
Cadmium	0.16	J
Calcium	463	U
Chromium	2.7	
Cobalt	4.6	U
Copper	1.5	J
Iron	1,790	
Lead	5.6	
Magnesium	463	U
Manganese	10.7	
Nickel	2.2	J
Potassium	232	J
Selenium	3.2	U
Silver	0.15	J
Sodium	116,000	
Thallium	2.3	U
Vanadium	4.6	U
Zinc	83.1	

Field Sample ID:	SCR-0718-D12-00	SCR-0718-D18-00	SCR-0718-D27-00
CLP Number:	COAG4	COAG5	COAG6
Location Number:	Drum D12	Drum D18	Drum D27
Type of Analysis:	Alcohols; Ignitability	Alcohols; Ignitability	Alcohols; Ignitability
Matrix:	Liquid	Liquid	Liquid
Percent Water	7.6%	11.5%	71.5%
Units:	µg/L	µg/L	µg/L
Date Sampled:	24-Jul-18	24-Jul-18	24-Jul-18
Analyte	Result	Flag	
1-Butanol	U	UJ, H1	U
2-Butanol	U	UJ, H1	U
Ethanol	U	UJ, H1	U
¹ Methanol	² 914,000	J, H1	U
³ Methanol	613,000	H	<40.0
¹ 1-Propanol	U	UJ, H1	U
Propanol	<4.00	H	52.5
Ignitability	⁴ Yes	⁴ Yes	5No

Field Sample ID:	SCR-0718-D29-00	
CLP Number:	COAHO	
Location Number:	Drum D29	
Type of Analysis:	SVOCs and PCBs	
Matrix:	Liquid	
Percent Water	71.5%	
Units:	µg/L	
Date Sampled:	25-Jul-18	
Analyte	Result	Flag
2,4-Dimethylphenol	9,390	H
2-Methylphenol	57,800	H
3 & 4 Methylphenol	243,000	H
Phenol	53,700	H
PCB-1254	<4.95	H
PCB-1260	<4.95	H

Legend:

µg/L = micrograms per liter

CLP Number = Contract Laboratory Program Sample Identifier Number

H - Sample was prepped or analyzed beyond the specified holding time

H1 - This sample was analyzed outside the EPA recommended holding time.

J - The identification of the analyte is acceptable; the reported value is an estimate.

U - Analyte included in the analysis, but not detected at or above the quantitation limit.

¹Methanol and Propanol by Method SW8015D/R3QA203

²Samples from Drum D12 contain methanol at a level of 91.4%.

³Methanol and Propanol by Method 8015C

⁴As per the alcohol exclusion rule (40CFR §261.21) sample from Drum D27 was analyzed for alcohol content.

⁵Samples from Drums D12 and D18 ignited on the first application of the flame.

⁵As per the alcohol exclusion rule (40CFR §261.21) sample from Drum D27 was analyzed for alcohol content.

PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 3: View of 55-gallon drums abandoned on the northeast side of the Site.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 4: View of Site 55-gallon drums, numbered by START.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 5: View of additional 55-gallon drums, numbered and assessed by START.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 6: View of a 55-gallon drum labeled METHANOL TECH.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 7: View of a 55-gallon drum labeled ISOPROPYL ALCOHOL, TECHNICAL.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



3.2.3 CYLINDERS

Cylinders were observed abandoned across the Site, as shown on Figure 3. Eleven cylinders were observed, ranging in size from 20-pound propane cylinders to 30-inch- and 56-inch-length oxygen and/or acetylene type cylinder bottles. Only three of the cylinders had identifiable labeling which identified them as oxygen.

PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 8: View of one of numerous abandoned cylinders that are scattered around the Site.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 9: View of another abandoned cylinder on Site.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



3.2.4 PHOTO RECORDING DEVELOPER BOTTLES

Numerous 12-fluid-ounce-sized bottles with varying volume contents were observed scattered on the northeastern side of the Site near the abandoned drums, as shown on Figure 3. The plastic bottles were labeled “Solutek Corporation – Photo Recording Developer” and showed the company name that produced the product. Research into the product produced a safety data sheet for the developer and identified hydroquinone as a chemical of concern. The EPA On Scene Coordinator (OSC) contacted a chemist from the EPA Environmental Response Team (ERT) for information about the environmental fate of hydroquinone. ERT reported that hydroquinone easily biodegrades in the soil, photodegrades and oxidizes in light, and does not appear to be persistent in the environment. Based on the EPA Chemistry Dashboard Site, a half-life of 6.17 days is predicted using the *OPEn structure–activity/property Relationship App* (OPERA) model (<https://comptox.epa.gov/dashboard/dsstoxdb/results?search=123-31-9>).

Microorganisms that can readily utilize hydroquinone as a carbon source are abundant in the soil and include bacteria, yeasts, and fungi (Reference 1: Wiley, SETAC Online Library, <https://setac.onlinelibrary.wiley.com/doi/epdf/10.1002/etc.5620010103>; Reference 2: National Center for Biotechnology Information, U.S. National Library of Medicine, National Institutes of Health, PubMed Central, Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3727088/>).

3.3 GAMMA RADIOLOGICAL SURVEY

During the site walk in May 2018, the OSC identified elevated gamma activity from three discrete radioactive objects. A handheld radionuclide identification device, the FLIR identiFINDER R400, was utilized to identify the radioactive isotope of each item as Radium-226. A Gamma Walkover Survey (GWS) was conducted across the Site on July 27, 28, and 30, 2018, to determine if other radioactive objects could be identified from the ground surface. No soil excavation was conducted during this assessment, and soil may have shielded additional locations/objects.

The survey was conducted by two teams equipped with gamma detection equipment, one Ludlum Model-2221 Scaler-Ratemeter with a 44-10 Gamma Scintillator and one Ludlum Model-19 microR Survey Meter. During the GWS, gamma activity in counts per minute (cpm), gamma exposure rate in microroentgens (μ R/hour), and location were recorded for each item identified.

Activity, exposure rate, and location numbers are presented in Table 3. A total of 85 radiant source locations were identified. In addition, a mounded area with numerous discrete gamma activity signatures was identified surrounding location number 33.

The gamma activity surveyed at ground surface for each location ranged from 8,500 cpm to over 1,000,000 cpm. Activity at 1 foot from ground surface ranged from 3,000 to 380,000 cpm. Gamma exposure rates were documented between 15 and 3,500 μ R/hour at ground surface and 10 to 900 μ R/hour at a foot from ground surface. Gamma activity at ground surface from each source is presented on Figure 4 in cpm. Gamma exposure rates of the sources are presented on Figure 5 in μ R/hour. The walkover results are displayed on the figures on a scale from less than 3 times background, 3 to 10 times, 10 to 30 times, 30 to 100 times and greater than 100 times background. Measurements collected have an unknown amount of soil shielding at each source and may be biased low.

PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 10: View of bottles of photo developer piled on Site. Bottle scatter the northeast corner of the Site. The developer once contained hydroquinone.

DATE: 25 July 2018

PHOTOGRAPHER: Weston START



PHOTO 11: View of the photo developer bottle label.

DATE: 25 July 2018

PHOTOGRAPHER: Weston START



Table 3
Gamma Walkover Survey Data Collection Notes
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Site Name: Shiloh Church Road Site		Dates: 07/27/18; 07/28/18; 07/30/18			
Site Task: Gamma Walkover Survey		Survey Instruments: Ludlum 2221 with 44-10 and			
Weather: Partly sunny to sunny, 80° to 90° F, humid.		Surface Conditions: Scattered metal & plastic debris on surface.			
Location ID:	cpm at Surface:	cpm at 1 ft from Surface:	µR at Surface:	µR at 1 ft:	Comments:
RAD-01	860,000	380,000	3,000	500	Deck marker plate
RAD-02	107,000	25,000	1,200	50	Marker at surface
RAD-03	800,000	95,000	420	120	Buried
RAD-04	478,000	68,000	440	120	Buried
RAD-05	20,000	12,000	-	-	
RAD-06	246,000	28,000	110	10	Buried
RAD-07	750,000	31,000	800	100	Buried
RAD-08	410,000	39,000	450	80	Buried
RAD-09	191,000	45,000	140	50	Buried
RAD-10	18,000	12,000	16	11	Buried
RAD-11	544,000	140,000	1,300	140	
RAD-12	1,000,000	57,000	3,500	150	Radium-226
RAD-13	65,000	28,000	190	30	
RAD-14	930,000	40,000	800	200	
RAD-15	1,000,000	80,000	1,900	900	
RAD-16	137,000	57,000	200	90	
RAD-17	173,000	22,000	110	15	
RAD-18	22,000	13,000	30	17	
RAD-19	152,000	17,000	120	30	
RAD-20	320,000	60,000	610	90	
RAD-21	65,000	13,000	440	15	
RAD-22	323,000	32,000	380	25	
RAD-23	1,000,000	117,000	3,000	120	
RAD-24	472,000	39,000	900	110	
RAD-25	220,000	23,000	410	80	
RAD-26	175,000	46,000	180	50	
RAD-27	55,000	17,000	30	12	At back road enterance
RAD-28	360,000	74,000	130	90	Larger source area
RAD-29	323,000	44,000	100	20	
RAD-30	120,000	14,000	100	20	
RAD-31	740,000	41,000	1,800	100	Source is bulb/lens
RAD-32	175,000	36,000	130	15	
RAD-33	35,000	11,000	50	15	
RAD-34	30,000	10,000	50	15	
RAD-35	230,000	27,000	240	50	
RAD-36	50,000	10,000	65	30	
RAD-37	811,000	23,000	600	80	Red glass dial gauge
RAD-38	640,000	25,000	90	30	
RAD-39	588,000	50,000	510	150	
RAD-40	850,000	52,000	1100	90	
RAD-41	50,000	22,000	100	15	
RAD-42	58,000	14,000	85	15	
RAD-43	78,000	12,000	100	40	

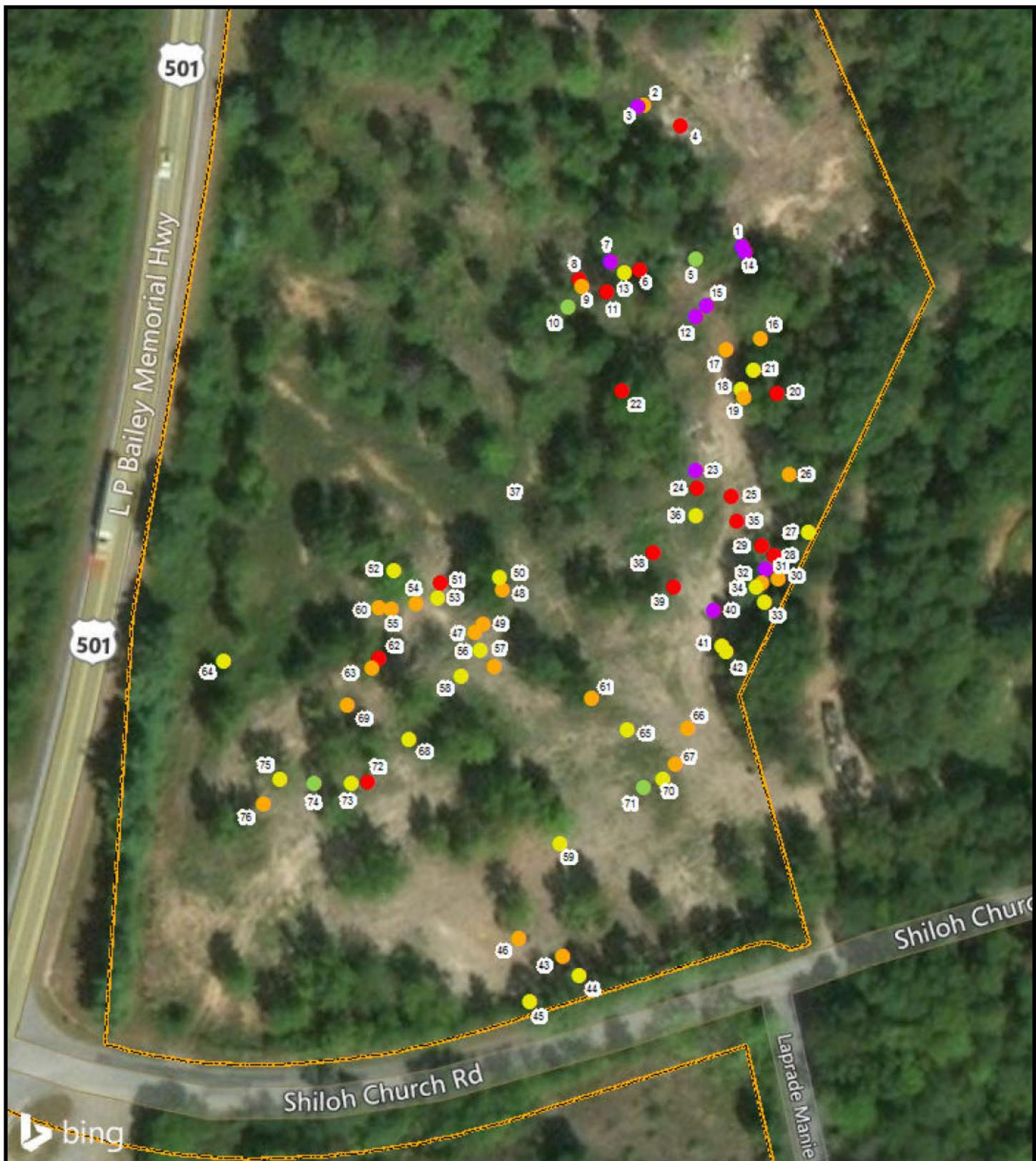
Notes: CPM=Counts per minute ft=foot µR=microRoentgen

Table 3
Gamma Walkover Survey Data Collection Notes
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Site Name: Shiloh Church Road Site		Dates: 07/27/18; 07/28/18; 07/30/18		
Site Task: Gamma Walkover Survey		Survey Instruments: Ludlum 2221 with 44-10 and		
Weather: Partly sunny to sunny, 80° to 90° F, humid.		Surface Conditions: Scattered metal & plastic debris on surface.		
Location ID:	cpm at Surface:	cpm at 1 ft from Surface:	µR at Surface:	µR at 1 ft:
RAD-44	42,000	17,000	75	15
RAD-45	61,000	15,000	80	20
RAD-46	73,000	17,000	50	10
RAD-47	98,000	18,000	210	20
RAD-48	114,000	16,000	170	25
RAD-49	83,000	24,000	140	20
RAD-50	30,000	9,000	34	15
RAD-51	337,000	38,000	510	130
RAD-52	66,000	9,000	60	18
RAD-53	24,000	8,500	40	15
RAD-54	141,000	18,000	80	30
RAD-55	112,000	8,000	70	20
RAD-56	45,000	8,500	15	10
RAD-57	208,000	57,000	440	60
RAD-58	43,000	9,000	70	22
RAD-59	45,000	9,000	40	15
RAD-60	112,000	3,000	120	40 Multiple items in area
RAD-61	96,000	21,000	90	20
RAD-62	218,000	30,000	140	40
RAD-63	90,000	18,000	35	20
RAD-64	26,000	7,000	24	10
RAD-65	28,000	7,000	30	15
RAD-66	86,000	16,000	-	-
RAD-67	111,000	32,000	150	30 Buried
RAD-68	61,000	13,000	90	15
RAD-69	77,000	11,000	40	25
RAD-70	70,000	14,000	55	15
RAD-71	19,000	11,000	20	10
RAD-72	344,000	30,000	200	30
RAD-73	52,000	10,000	170	30
RAD-74	850	7,000	20	10 Buried
RAD-75	23,000	7,000	40	15
RAD-76	140,000	13,000	120	42
RAD-77	106,000	42,000	350	80
RAD-78	67,800	12,300	210	35
RAD-79	120,000	34,000	385	21
RAD-80	172,000	33,000	415	100
RAD-81	63,000	17,000	110	25
RAD-82	20,000	8,000	20	10 Buried
RAD-83	18,000	7,000	15	10 Buried
RAD-84	163,000	53,000	320	100
RAD-85	485,000	76,000	500	130

Notes: CPM=Counts per minute ft=foot µR=microRoentgen



Legend

Site Boundary

Color	Scale	CPM
Green	= less than (3x) background	= < 21,000
Yellow	= (3x) to (10x) background	= 21,001 to < 70,000
Orange	= (10x) to (30x) background	= 70,001 to < 210,000
Red	= (30x) to (100x) background	= 210,001 to < 700,000
Purple	= greater than (100x) background	= greater than 700,001

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

Shiloh Church Road
Nathalie, Halifax County, Virginia

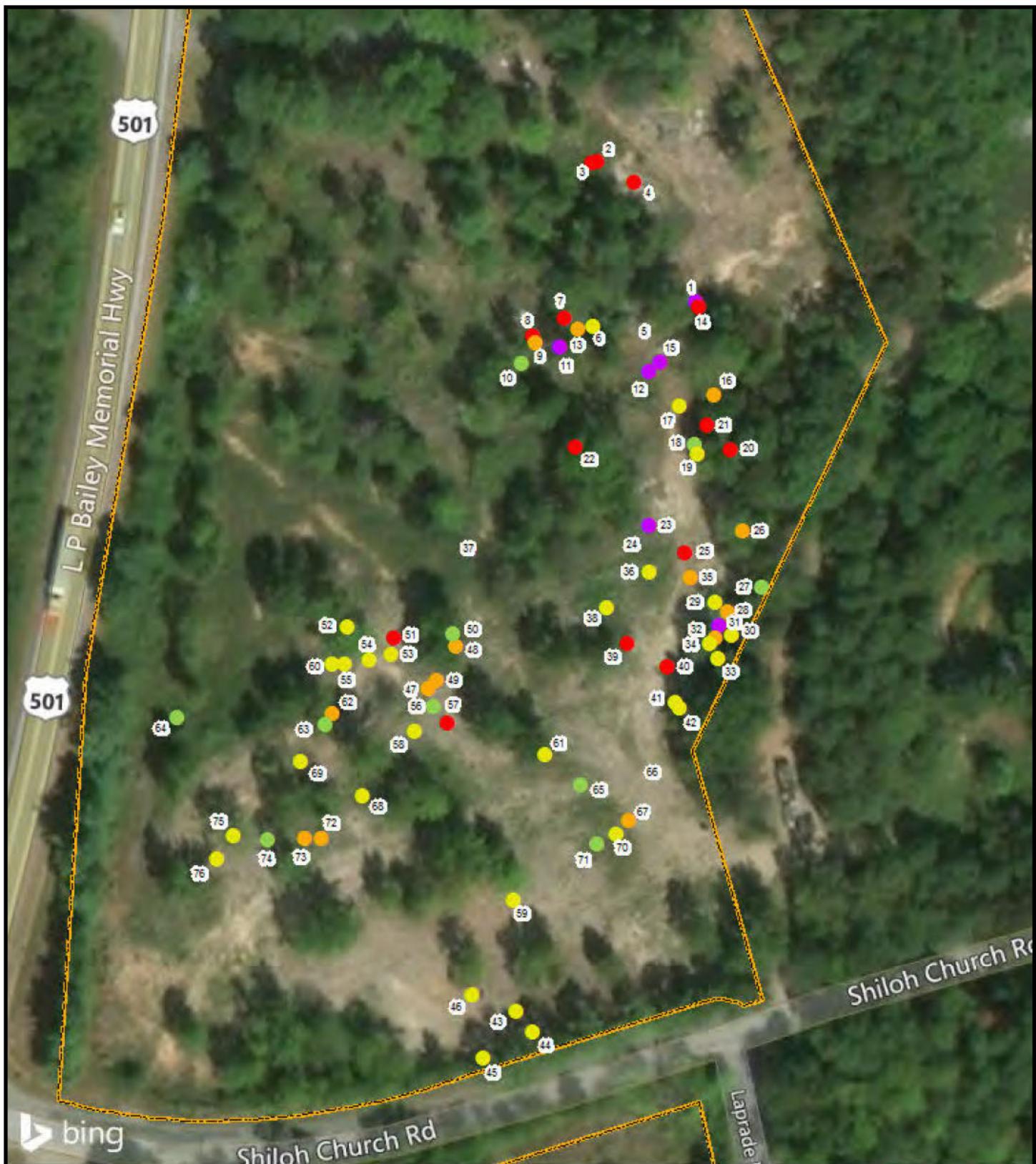
Figure 4
Gamma Walkover Results
Presented in Counts Per Minute

Note:
Survey conducted with a Ludlum Model-2221
Scaler-Ratemeter with a 44-10 Gamma Scintillator

Measurements were collected at ground surface
and that an unknown amount of soil is shielding
each source

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/13/2018





Legend

 Site Boundary

Color	Scale	μR per hour
Green	= less than (3x) background	= < 36
Yellow	= (3x) to (10x) background	= 36 to < 120
Orange	= (10x) to (30x) background	= > 120 to < 360
Red	= (30x) to (100x) background	= > 360 to 1,200
Purple	= greater than (100x) background	= > 1,200

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

Notes:
Survey conducted with a Ludlum Model-19
microR Survey Meter

Measurements were collected at ground
surface and that an unknown amount of soil
is shielding each source

Shiloh Church Road
Nathalie, Halifax County, Virginia

Figure 5
Gamma Walkover Results
Presented in
Microroentgen per Hour

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/13/2018



PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 12: View of Radium-226 isotope deck-marker observed on surface, a dime is placed next to the item for scale. Gamma radiation surveyed at 1,000,000 counts per minute, 3 milli-Roentgen (3 mR)

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 13: View of surveying the gamma exposure levels of the deck marker using a Ludlum Model-19.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 14: View of surveying the counts per minute (gamma radiation) of the deck marker using a Ludlum Model-2221 with 44-10 probe..

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 15: View of another Radium-221 dial source containing item discovered on Site.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



3.4 SOIL INVESTIGATION

3.4.1 SURFACE SOIL SAMPLING

From July 23 through August 1, 2018, WESTON collected surface soil samples from 12 sampling locations, as shown on Figure 6. Sampling locations were selected to determine the potential for off-site contamination. Surface soil samples were collected for VOC analysis using a Terracore® sampler from a depth of 0-0.5 feet below ground surface (ft bgs). The soil samples for non-VOC analysis were collected using disposable polyethylene scoops and homogenized in a disposable aluminum pan prior to placement in the appropriate sample containers. Surface soil was observed to be a mixture of native soils (reddish brown silty clay and sandy silty) and fill material composed primarily of slag, metal, and concrete.

Sample SS-01 was a sediment sample collected from the pond west of L.P. Bailey Memorial Highway. Samples SS-02 and SS-03 were collected from the site area near the drum disposal area. Soil samples SS-04 through SS-08 were collected around the perimeters of both parcels of the Site. Soil sample SS-09 was collected near a leaking transformer. Soil samples SS-10 and SS-11 were collected near off-site battery casing debris piles adjacent to an additional property previously owned by the former business owner. Soil sample SS-12 was collected at an off-site and down-gradient culvert located on the west side of L.P. Bailey Memorial Highway. As outlined in the FSP (WESTON, 2018a), surface soil samples, with the exception of SS-09, were submitted for analysis of VOCs, SVOCs, PCBs, and target analyte list (TAL) metals, including mercury. Soil sample SS-09 was submitted for analysis of only PCBs. Additionally, soil samples SS-10 and SS-11 were submitted for analysis of only TAL metals, including mercury.

3.4.2 SURFACE SOIL RESULTS

As shown on Table 4, surface soil samples had concentrations of VOCs, SVOCs, PCBs, and metals. In particular, sample SS-02 contained the majority of VOC detections exceeding VDEQ soil screening values. Additionally, although not detected above soil screening values, low levels of TCE were detected in samples SS-02 and SS-03, and low levels of PCE were detected in sample SS-03. SVOCs were not detected in the surface soil samples at concentrations exceeding VDEQ screening values. The majority of the soil samples contained concentrations of metals that were above EPA regional screening levels (RSLs) for residential soils (EPA, 2018a). Surface sample SS-09 collected at the remains of a transformer was submitted for PCB analysis. Surface soil sample locations are shown on Figure 6.

3.4.3 IN SITU SURFACE SOIL SCREENING FOR LEAD

On July 27 and August 1, 2018, WESTON conducted an in situ surface soil screening survey of site soils and nearby off-site soils using a handheld X-ray fluorescence analyzer (XRF).

Technical note: An XRF (X-ray fluorescence) field screening instrument is a non-destructive analytical technique used to determine the elemental composition of materials. XRF analyzers determine the chemistry of a sample by measuring the fluorescent (or secondary) X-ray emitted from a sample when it is excited by a primary X-ray source. Each of the elements present in a sample produces a set of characteristic fluorescent X-rays ("a fingerprint") that is unique for that specific element, which is why XRF spectroscopy is an excellent technology for qualitative and quantitative analysis of material composition (ThermoFisher Scientific, 2018).

WESTON conducted an in situ surface soil screening survey in a swale located adjacent to the northeast boundary of the Site, as well as at a few locations off-site where battery casing debris was found during the site investigation. The in situ surface soil screening concentrations of lead ranged from 11 ppm, north of the Site, to greater than 100,000 ppm (>10%) of lead at the battery casing locations and at two locations on the Site. A summary of the XRF surface soil screening locations with in situ lead concentrations is shown on Figure 7.

Table 4
Surface Soil Results - VOCs
Shiloh Church Road Site
Natalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02483

Field Sample ID (beginning with SCR-0718-):	SS01-0606-00	SS02-0000-00	SS03-0000-00	SS04-0000-00	SS04-0000-01	SS05-0000-00						
CLP Number:	COAB8	COAB9	COAB7	COAC7	COAD2	COAC8						
Location:	SS01	SS02	SS03	SS04	SS05	SS05						
Type of Analysis:	VOCs	VOCs	VOCs	VOCs	VOCs	VOCs						
Matrix:	Surface Soil											
Units:	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg						
Date Sampled:	24-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18						
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
1,1,1-Trichloroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,1,2,2-Tetrachloroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,1,2-Trichloroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,1-Dichloroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,1-Dichloroethene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,2,3-Trichlorobenzene	12	U	2800	J+	6	U	5.2	U	7.2	UJ	4.9	U
1,2,4-trichlorobenzene	12	U	7000	J+	6	U	5.2	U	7.2	UJ	4.9	U
1,2-Dibromo-3-chloropropane	12	U	7.9	R	6	U	5.2	U	7.2	UJ	4.9	U
1,2-Dibromoethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,2-Dichlorobenzene	12	U	44000	J+	6	U	5.2	U	7.2	UJ	4.9	U
1,2-Dichloroethane	12	U	44	J+	6	U	5.2	U	7.2	U	4.9	U
1,2-Dichloropropane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
1,3-Dichlorobenzene	12	U	30000	J+	6	U	5.2	U	7.2	UJ	4.9	U
1,4-Dichlorobenzene	12	U	27000	J+	6	U	5.2	U	7.2	UJ	4.9	U
2-Butanone	26		16	UJ	12	UJ	10	U	14	U	9.7	U
2-Hexanone	24	U	16	UJ	12	UJ	10	U	14	U	9.7	U
4-Methyl-2-pentanone	24	U	16	UJ	12	UJ	10	U	14	U	9.7	U
Acetone	99		330	J+	11	J	10	U	14	U	9.7	U
Benzene	12	U	8.5	J+	6	U	5.2	U	7.2	U	4.9	U
Bromochloromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Bromodichloromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Bromoform	12	U	7.9	R	6	U	5.2	U	7.2	UJ	4.9	U
Bromomethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Carbon disulfide	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Carbon tetrachloride	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Chlorobenzene	12	U	180	J+	6	U	5.2	U	7.2	U	4.9	U
Chloroethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Chloroform	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Chloromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
cis-1,2-Dichloroethene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
cis-1,3-Dichloropropene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Cyclohexane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Dibromochloromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Dichlorodifluoromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Ethylbenzene	12	U	800	J+	6	U	5.2	U	7.2	U	4.9	U
Isopropylbenzene	12	U	23	J+	6	U	5.2	U	7.2	U	4.9	U
m,p-Xylene	12	U	3300	J+	6	U	5.2	U	7.2	U	4.9	U
Methyl Acetate	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Methyl tert-butyl Ether	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Methylcyclohexane	12	U	67	J+	6	U	5.2	U	7.2	U	4.9	U
Methylene chloride	12	U	11	J+	6	U	5.2	U	7.2	U	4.9	U
o-xylene	12	U	3500	J+	6	U	5.2	U	7.2	U	4.9	U
Styrene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Tetrachloroethene	12	U	18	J+	6	U	5.2	U	7.2	U	4.9	U
Toluene	12	U	140	J+	6	U	5.2	U	7.2	U	4.9	U
trans-1,2-Dichloroethene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
trans-1,3-Dichloropropene	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Trichloroethene	12	U	7.3	J+	9.6		5.2	U	7.2	U	4.9	U
Trichlorofluoromethane	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U
Vinyl chloride	12	U	7.9	UJ	6	U	5.2	U	7.2	U	4.9	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SS = Soil Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate

J = The result is an estimated quantity but the result may be biased high

Table 4
Surface Soil Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02483

Field Sample ID (beginning with SCR-0718-):	SS06-0000-00	SS07-0000-00	SS08-0000-00	SS12-0000-00	SS12-0000-01					
CLP Number:	COAC9	COAD0	COAD1	COAF8	COAF9					
Location:	SS06	SS07	SS08	SS12	SS12					
Type of Analysis:	VOCs	VOCs	VOCs	VOCs	VOCs					
Matrix:	Surface Soil									
Units:	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg					
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	01-Aug-18	01-Aug-18					
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
1,1,1-Trichloroethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
1,1,2,2-Tetrachloroethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
1,1,2-Trichloroethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
1,1-Dichloroethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
1,1-Dichloroethene	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
1,2,3-Trichlorobenzene	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
1,2,4-trichlorobenzene	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
1,2-Dibromo-3-chloroproppane	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
1,2-Dibromoethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
1,2-Dichlorobenzene	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
1,2-Dichloroethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
1,2-Dichloropropane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
1,3-Dichlorobenzene	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
1,4-Dichlorobenzene	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
2-Butanone	8.7	U	9	U	10	UJ	13	U	12	U
2-Hexanone	8.7	U	9	U	10	R	13	U	12	U
4-Methyl-2-pentanone	8.7	U	9	U	10	R	13	U	12	U
Acetone	8.7	U	9	U	10	UJ	13	U	12	U
Benzene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Bromochloromethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Bromodichloromethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Bromoform	4.4	U	4.5	U	5.1	R	6.5	UJ	6.2	UJ
Bromomethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Carbon disulfide	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Carbon tetrachloride	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Chlorobenzene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Chloroethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Chloroform	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Chloromethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
cis-1,2-Dichloroethene	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
cis-1,3-Dichloropropene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Cyclohexane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Dibromochloromethane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Dichlorodifluoromethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Ethylbenzene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Isopropylbenzene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
m,p-Xylene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Methyl Acetate	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Methyl tert-butyl Ether	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Methylcyclohexane	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Methylene chloride	4.4	U	4.5	U	5.1	UJ	30	39		
o-xylene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Styrene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Tetrachloroethene	4.4	U	4.5	U	6.3	R	6.5	U	6.2	U
Toluene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
trans-1,2-Dichloroethene	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
trans-1,3-Dichloropropene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Trichloroethene	4.4	U	4.5	U	5.1	R	6.5	U	6.2	U
Trichlorofluoromethane	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U
Vinyl chloride	4.4	U	4.5	U	5.1	UJ	6.5	U	6.2	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SS - Soil Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate

J = The result is an estimated quantity but the result may be biased high

Table 4
Surface Soil Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02483

Field Sample ID (beginning with SCR-0718-):	SS01-0606-00	SS02-0000-00	SS03-0000-00	SS04-0000-00	SS04-0000-01	SS05-0000-00				
CLP Number:	COAB8	COAB9	COAB7	COAC7	COAD2	COAC8				
Location:	SS01	SS02	SS03	SS04	SS04	SS05				
Type of Analysis:	VOCs	VOCs	VOCs	VOCs	VOCs	VOCs				
Matrix:	Sediment	Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil				
Units:	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg				
Date Sampled:	24-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18				
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1-Biphenyl	400	U	340	U	260	U	270	U	290	U
1,2,4,5-Tetrachlorobenzene	400	U	340	U	260	U	270	U	290	U
1,4-Dioxane	160	U	130	U	100	U	100	U	110	R
2,2'-oxybis(1-Chloropropane)	780	U	660	U	510	U	520	U	550	U
2,3,4,6-Tetrachlorophenol	400	U	340	U	260	U	270	U	290	U
2,4,5-Trichlorophenol	400	U	340	U	260	U	270	U	290	U
2,4,6-Trichlorophenol	400	U	340	U	260	U	270	U	290	U
2,4-Dichlorophenol	400	U	340	U	260	U	270	U	290	U
2,4-Dimethylphenol	400	U	200	J	260	U	270	U	290	U
2,4-Dinitrophenol	780	U	660	U	510	R	520	U	550	U
2,4-Dinitrotoluene	400	U	340	U	260	U	270	U	290	U
2,6-Dinitrotoluene	400	U	340	U	260	U	270	U	290	U
2-Chloronaphthalene	400	U	340	U	260	U	270	U	290	U
2-Chlorophenol	400	U	340	U	260	U	270	U	290	U
2-Methylnaphthalene	400	U	340	U	260	U	270	U	290	U
2-Methylphenol	780	U	660	U	98	J	520	U	550	U
2-Nitroaniline	400	U	340	U	260	R	270	U	290	U
2-Nitrophenol	400	U	340	U	260	U	270	U	290	U
3,3-Dichlorobenzidine	780	U	660	U	510	U	520	U	550	U
3-Nitroaniline	780	U	660	U	510	R	520	U	550	U
4,6-Dinitro-2-methylphenol	780	U	660	U	510	U	520	U	550	U
4-Bromophenyl-phenylether	400	U	340	U	260	U	270	U	290	U
4-Chloro-3-methylphenol	400	U	340	U	260	U	270	U	290	U
4-Chloroaniline	780	U	660	U	510	U	520	U	550	U
4-Chlorophenyl-phenylether	400	U	340	U	260	U	270	U	290	U
4-Methylphenol	780	U	88	J	420	J	520	U	550	U
4-Nitroaniline	780	U	660	U	510	R	520	U	550	U
4-Nitrophenol	780	U	660	U	510	R	520	U	550	U
Acenaphthene	400	U	340	U	260	U	270	U	290	U
Acenaphthylene	400	U	340	U	260	U	270	U	290	U
Acetophenone	780	U	660	U	510	U	520	U	550	U
Anthracene	400	U	340	U	260	U	270	U	290	U
Atrazine	780	U	660	U	510	U	520	U	550	U
Benzaldehyde	780	U	660	U	510	U	520	U	550	U
Benzo(a)anthracene	400	U	340	U	110	J	78	J	110	J
Benzo(a)pyrene	400	U	340	U	99	J	270	U	290	U
Benzo(b)fluoranthene	400	U	340	U	390		94	J	130	J
Benzo(g,h,i)perylene	400	U	340	U	260	U	73	J	290	U
Benzo(k)fluoranthene	400	U	340	U	130	J	270	U	290	U
Bis(2-Chloroethoxy)methane	400	U	340	U	260	U	270	U	290	U
Bis(2-Chloroethyl)ether	780	U	660	U	510	U	520	U	550	U
Bis(2-ethylhexyl)phthalate	400	U	5500	J	66	J	3200	J	1500	J
Butylbenzylphthalate	400	U	340	U	260	U	290	J	75	J
Caprolactam	780	U	660	U	510	U	520	U	550	U
Carbazole	780	U	660	U	510	U	520	U	550	U
Chrysene	400	U	340	U	410		86	I	110	I
Dibenzo(a,h)anthracene	400	U	340	U	260	U	270	U	290	U
Dibenzofuran	400	U	340	U	260	U	270	U	290	U
Diethylphthalate	400	U	340	U	260	U	270	U	290	U
Dimethylphthalate	470		310	J	160	J	220	J	220	J
Di-n-butylphthalate	400	U	1200		260	U	450		270	J
Di-n-octyl phthalate	780	U	660	U	510	U	520	U	550	U
Fluoranthene	780	U	660	U	350	J	110	J	170	J
Fluorene	400	U	340	U	260	U	270	U	290	U
Hexachlorobutadiene	400	U	280	J	260	U	270	U	290	U
Hexachlorocyclopentadiene	780	U	660	U	510	U	520	U	550	U
Hexachloroethane	400	U	340	U	260	U	270	U	290	U
Indeno[1,2,3-cd]pyrene	400	U	340	U	74	J	270	U	290	U
Isophorone	400	U	340	U	260	U	270	U	290	U
Naphthalene	400	U	160	J	260	U	270	U	290	U
Nitrobenzene	400	U	340	U	260	U	270	U	290	U
N-Nitroso-di-n-propylamine	400	U	340	U	260	U	270	U	290	U
N-Nitrosodiphenylamine	400	U	340	U	260	U	270	U	290	U
Pentachlorophenol	780	U	660	U	510	U	520	U	550	U
Phenanthrene	400	U	340	U	260	U	270	U	140	J
Phenol	1100		560	J	410	J	460	J	330	J
Pyrene	400	U	340	U	410		140	J	180	J
									62	J

Legend:
All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SS = Soil Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRLQ) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate

Table 4
Surface Soil Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02483

Field Sample ID (beginning with SCR-0718-:)	SS06-0000-00	SS07-0000-00	SS08-0000-00	SS12-0000-00	SS12-0000-01			
CLP Number:	COAC9	COADO	COAD1	COAF8	COAF9			
Location:	SS06	SS07	SS08	SS12	SS12			
Type of Analysis:	VOCs	VOCs	VOCs	VOCs	VOCs			
Matrix:	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil			
Units:	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	01-Aug-18	01-Aug-18			
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1-Biphenyl	230	U	210	U	220	U	240	U
1,2,4,5-Tetrachlorobenzene	230	U	210	U	220	U	240	U
1,4-Dioxane	91	U	84	U	88	U	93	U
2,2-oxybis(1-Chloropropane)	450	U	420	U	430	U	460	U
2,3,4,6-Tetrachlorophenol	230	U	210	U	220	U	240	U
2,4,5-Trichlorophenol	230	U	210	U	220	U	240	U
2,4,6-Trichlorophenol	230	U	210	U	220	U	240	U
2,4-Dichlorophenol	230	U	210	U	220	U	240	U
2,4-Dimethylphenol	230	U	210	U	220	U	240	U
2,4-Dinitrophenol	450	U	420	U	430	U	460	U
2,4-Dinitrotoluene	230	U	210	U	220	U	240	U
2,6-Dinitrotoluene	230	U	210	U	220	U	240	U
2-Chloronaphthalene	230	U	210	U	220	U	240	U
2-Chlorophenol	230	U	210	U	220	U	240	U
2-Methylnaphthalene	230	U	210	U	220	U	240	U
2-Methylphenol	450	U	420	U	430	U	460	U
2-Nitroaniline	230	U	210	U	220	U	240	U
2-Nitrophenol	230	U	210	U	220	U	240	U
3,3-Dichlorobenzidine	450	U	420	U	430	U	460	U
3-Nitroaniline	450	U	420	U	430	U	460	U
4,6-Dinitro-2-methylphenol	450	U	420	U	430	U	460	U
4-Bromophenyl-phenylether	230	U	210	U	220	U	240	U
4-Chloro-3-methylphenol	230	U	210	U	220	U	240	U
4-Chloroaniline	450	U	420	U	430	U	460	U
4-Chlorophenyl-phenylether	230	U	210	U	220	U	240	U
4-Methylphenol	450	U	420	U	430	U	460	U
4-Nitroaniline	450	U	420	U	430	U	460	U
4-Nitrophenol	450	U	420	U	430	U	460	U
Acenaphthene	230	U	210	U	220	U	240	U
Acenaphthylene	230	U	210	U	220	U	240	U
Acetophenone	450	U	420	U	430	U	460	U
Anthracene	230	U	210	U	220	U	240	U
Atrazine	450	U	420	U	430	U	460	U
Benzaldehyde	450	U	420	U	430	U	460	U
Benzo(a)anthracene	230	U	210	U	220	U	240	U
Benzo(a)pyrene	230	U	210	U	220	U	240	U
Benzo(b)fluoranthene	230	U	88	J	220	U	240	U
Benzo(g,h,i)perylene	230	U	210	U	220	U	240	U
Benzo(k)fluoranthene	230	U	210	U	220	U	240	U
Bis(2-Chloroethoxy)methane	230	U	210	U	220	U	240	U
Bis(2-Chloroethyl)ether	450	U	420	U	430	U	460	U
Bis(2-ethylhexyl)phthalate	2300	J	210	UJ	220	U	240	U
Butylbenzylphthalate	740	J	210	UJ	220	U	240	U
Caprolactam	450	U	420	U	430	U	460	U
Carbazole	450	U	420	U	430	U	460	U
Chrysene	230	U	210	U	220	U	240	U
Dibenz(a,h)anthracene	230	U	210	U	220	U	240	U
Dibenozuran	230	U	210	U	220	U	240	U
Diethylphthalate	230	U	210	U	220	U	240	U
Dimethylphthalate	130	J	140	J	69	J	290	290
Di-n-butylphthalate	190	J	210	U	220	U	240	U
Di-n-octyl phthalate	450	U	420	U	430	U	460	U
Fluoranthene	450	UJ	420	UJ	430	U	460	U
Fluorene	230	U	210	U	220	U	240	U
Hexachlorobutadiene	230	U	210	U	220	U	240	U
Hexachlorocyclopentadiene	450	U	420	U	430	U	460	U
Hexachloroethane	230	U	210	U	220	U	240	U
Indeno(1,2,3-cd)pyrene	230	U	210	U	220	U	240	U
Isophorone	230	U	210	U	220	U	240	U
Naphthalene	230	U	210	U	220	U	240	U
Nitrobenzene	230	U	210	U	220	U	240	U
N-Nitroso-di-n-propylamine	230	U	210	U	220	U	240	U
N-Nitrosodiphenylamine	230	U	210	U	220	U	240	U
Pentachlorophenol	130	J	420	U	430	U	460	U
Phenanthrene	230	U	210	U	220	U	240	U
Phenol	270	J	230	J	150	J	460	U
Pyrene	230	U	210	U	220	U	240	U

Legend:
Al values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number = Contract Laboratory Program Sample Ident fier Number

SS - Soil Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate

Table 4
Surface Soil Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID	SS01-0606-00	SS02-0000-00	SS03-0000-00	SS04-0000-00	SS04-0000-01	SS05-0000-00	SS06-0000-00	SS07-0000-00	SS08-0000-00	SS09-0000-00
CLP Number:	COAB8	COAB9	COAB7	COAC7	COAD2	COAC8	COAC9	COAD0	COAD1	COAF5
Location:	SB-04	SB-04	SB-05	SB-05	SB-06	SB-06	SB-07	SB-07	SB-08	SB-08
Depth	6 feet	Surface								
Type of Analysis:	PCBs									
Matrix:	Surface Soil									
Units:	µg/kg									
Date Sampled:	24-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	01-Aug-18
Analyte	Result	Flag								
Aroclor-1016	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1221	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1232	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1242	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1248	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1254	17	J	66	UJ	51	U	120,000	210,000	12,000	170,000
Aroclor-1260	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1262	78	U	66	UJ	51	U	52	U	56	U
Aroclor-1268	78	U	66	UJ	51	U	52	U	56	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number Contract Laboratory Program Sample Identifier Number

U Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 4
Surface Soil Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.4A.02388

Field Sample ID (begins with SCR-0718-):	SS01-0606-00	SS02-0000-00	SS03-0000-00	SS04-0000-00	SS04-0000-01	SS05-0000-00	SS06-0000-00								
CLP Number:	MCOAB8	MCOAB9	MCOAB7	MCOAC7	MCOAD2	MCOAC8	MCOAC9								
Location Number:	SS01	SS02	SS03	SS04	SS05	SS06	SS07								
Depth:	6 feet	Surface	Surface	Surface	Surface	Surface	Surface								
Type of Analysis:	Metals	Metals	Metals	Metals	Metals	Metals	Metals								
Matrix:	Sediment Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil								
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg								
Date Sampled:	24-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	25-Jul-18	26-Jul-18								
Analyte	Residential Soil Screening Level* (mg/kg)	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag				
Aluminum	77,000	28,200		15,100		8,310		22,200		25,000		18,700		21,700	
Antimony	31	1.4	J	12.2	J	3.4	J	51.6	J	60.7	J	3	J	28.5	J
Arsenic	0.68	2.5		12		4.3		7		7.7		5.7		15.3	
Barium	15,000	69.9		66.4		89.5		285		325		88.9		294	
Beryllium	160	0.58	J	0.15	J	0.11	J	0.42	J	0.44	J	0.31	J	0.52	J
Cadmium	71	1.3		7.7		3.3		71.4		75.9		34.9		277	
Calcium	NS	372	J	995		1,320		4,130		4,180		2,660		5,790	
Chromium	120,000	21		287		54.5		46.5		48.8		62.3		129	
Cobalt	23	7.8	J	6.9		4.7	J	8.5		8.2		6.2		13.9	
Copper	3,100	40.3	J	69.4	J	40.8	J	2,720	J	2,830	J	414	J	2,890	
Iron	55,000	23,800		129,000		50,500		32,000		31,600		39,600		170,000	
Lead	400	64.8		282		1080		2430		2710		551		3180	
Magnesium	NS	582	J	533	J	373	J	1,300		1,360		1,480		2,590	
Manganese	NS	131	J	506	J	313	J	504	J	521	J	428	J	1690	
Mercury	11	0.067	J	0.041	J	0.036	J	0.71		0.64		0.83		4.8	
Nickel	1,500	13.5		24.9		18.6		69.5		76		72.9		200	
Potassium	NS	864	U	810		1020		1100		1150		703		587	
Selenium	390	6.1	U	4.2	U	5.1	U	2.1	J	1.1	J	0.42	J	231	
Silver	390	1.7	U	1.2	U	1.5	U	2.7		3.1		1.2	U	13.5	
Sodium	NS	864	U	3,940		5,150		51.5	J	53	J	44.2	J	65.3	
Thallium	0.78	4.3	UJ	3	UJ	3.7	UJ	4	UJ	4	UJ	3	UJ	2.9	
Vanadium	390	47.1		14.9		8.2		28.1		28		31.9		20.6	
Zinc	23,000	88.7		308		313		2,180		2,310		2,350		7,660	

Notes

All values are presented in milligrams per kilogram (mg/kg).

EPA Residential Soil Screening Levels (RSL) for residential soil TR 1E-06 HQ 1.0.

Values in yellow indicate an exceedance of the EPA RSL.

Values in boldface indicate a detected reportable value

NL Not listed

J Analyte present, reported value may not be accurate or precise.

U Not detected.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

CLP Number Contract Laboratory Program Sample Identifier Number

SS Surface Soil Sample

Table 4
Surface Soil Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.4A.02388

Field Sample ID (begins with SCR-0718-):		SS07-0000-00	SS08-0000-00	SS10-0000-00	SS11-0000-00	SS12-0000-00	SS12-0000-01						
CLP Number:	MCOAD0	MCOAD1	MCOAF6	MCOAF7	MCOAF8	MCOAF9							
Location Number:	SS08	SS09	SS10	SS11	SS12	*SS12							
Depth:	Surface	Surface	Surface	Surface	Surface	Surface							
Type of Analysis:	Metals	Metals	Metals	Metals	Metals	Metals							
Matrix:	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil							
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg							
Date Sampled:	26-Jul-18	26-Jul-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18							
Analyte	Residential Soil Screening Level*	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
Aluminum	77,000	9,770		25,800		11,300		3,130		27,400		29,200	
Antimony	31	46.6	J	22.7	J	28.8	J	734	J	7.9	UJ	4.7	J
Arsenic	0.68	7		19.3		9.5		104		6.4		7.2	
Barium	15,000	95.7		164		44		184		76.7		78.3	
Beryllium	160	0.13	J	0.63	J	0.21	J	0.031	J	0.31	J	0.34	J
Cadmium	71	14.7		34.4		0.57	UJ	2.5	J-	8.4		8.6	
Calcium	NS	1,300		2,640		232	J	4,230		3,100		3,290	
Chromium	120,000	34.8		78.1		5.7		5.2		36.4		40.8	
Cobalt	23	2.4	J	14.9		2.7	J	1.2	J	6.6	UJ	6.2	J
Copper	3,100	1,260	J	961	J	9.7		34.7		323		297	
Iron	55,000	20,600		122,000		9,340		8,980		31,500		35,700	
Lead	400	1230		875		33500		122000		726		751	
Magnesium	NS	505	J	1,040		491	J	1,650		2,680		3,000	
Manganese	NS	190	J	462	J	149		297		307		348	
Mercury	11	0.58		0.46		0.068	J	0.42		0.37		0.39	
Nickel	1,500	18.8		87.8		2.6	J	2.7	J	27.1	J-	30.3	
Potassium	NS	597	U	679	U	572	U	613	U	1,070		1,120	
Selenium	390	4.2	U	4.8	U	4	U	0.68	J	0.45	J	4.7	U
Silver	390	1.2	U	1.4	U	0.15	J	4.5		0.36	J	0.33	J
Sodium	NS	597	U	63.3	J	572	U	28.9	J	80.9	J	91.5	J
Thallium	0.78	3	UJ	3.4	UJ	2.9	UJ	3.1	UJ	3.3	UJ	3.4	UJ
Vanadium	390	14.2		87.5		20.9		3.7	J	43.9		47.8	
Zinc	23,000	1,470		20,100		16.2		25.3		593		603	

Notes

All values are presented in milligrams per kilogram (mg/kg).

*Duplicate of SS-12

EPA Residential Soil Screening Levels (RSL) for residential soil TR 1E-06 HQ 1.0

Values in yellow indicate an exceedance of the EPA RSL.

Values in boldface indicate a detected reportable value

NL Not listed

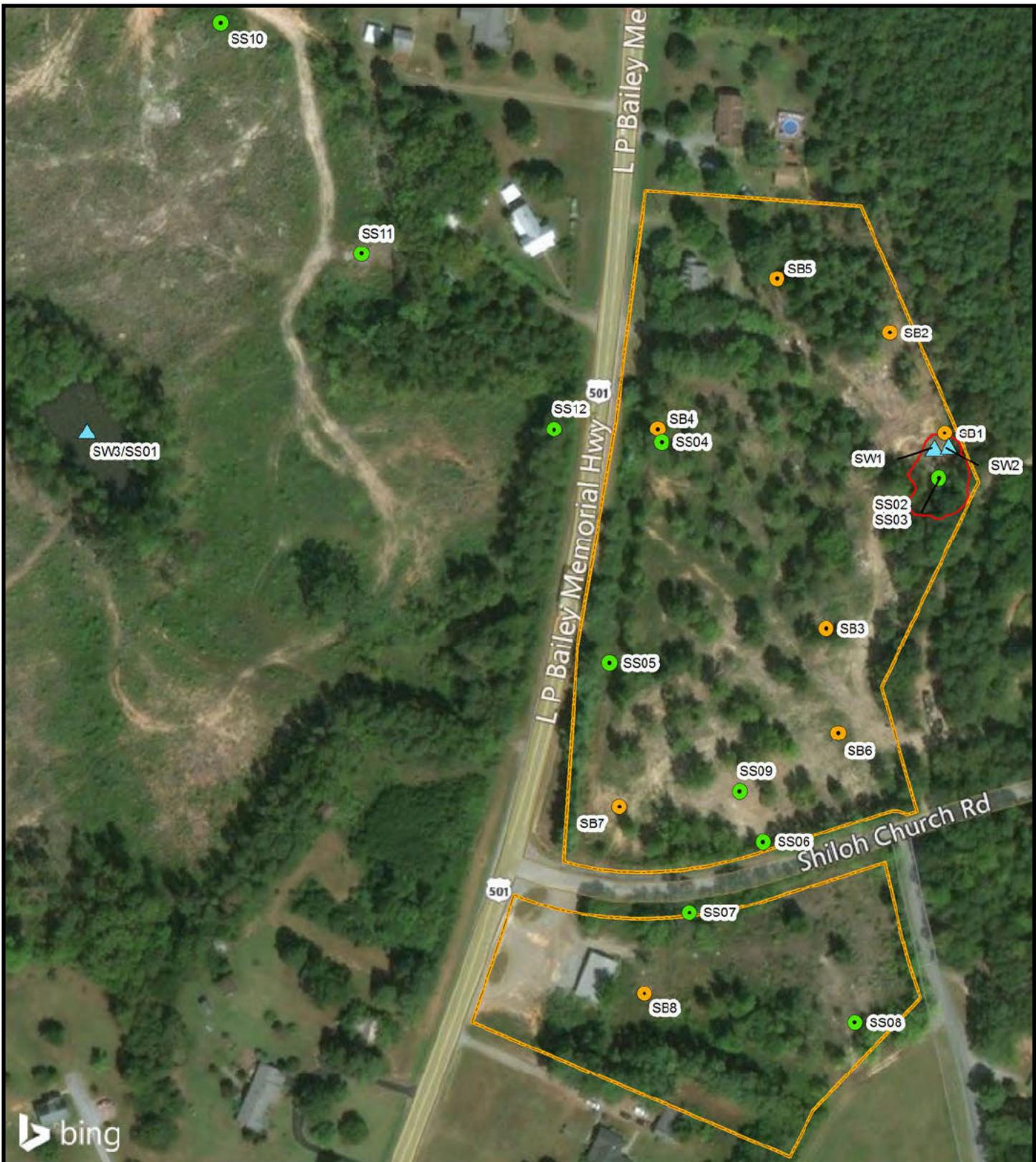
J Analyte present, reported value may not be accurate or precise.

U Not detected.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

CLP Number Contract Laboratory Program Sample Identifier Number

SS Surface Soil Sample



Legend

- ▲ Surface Water/Sediment Sample
- Surface Soil Sample
- Soil Boring
- Drum Location Outline
- Site Boundary

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

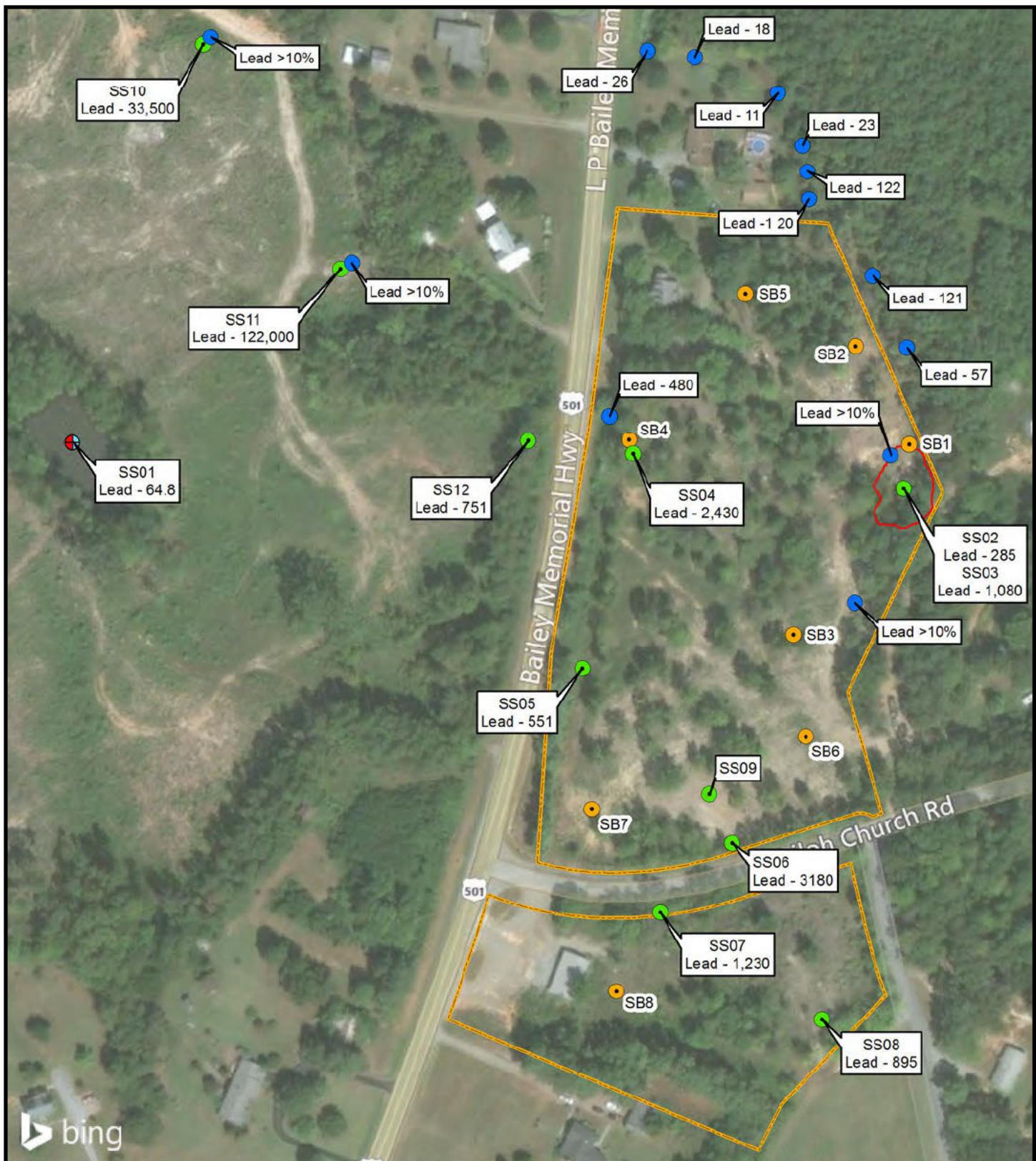
0 150
Feet

Shiloh Church Road
Nathalie, Halifax County, Virginia

Figure 6
Surface Soil and Soil Boring
Sample Locations

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/11/2018

WESTON
SOLUTIONS



bing

Legend

- XRF Lead Screening (ppm)
- Sediment Sample
- Surface Soil Sample (ppm)
- Soil Boring
- Drum Location Outline
- Site Boundary

Aerial Imagery - ESRI, Bing Mapping Service



Coordinate System:
UTM Zone 18N Feet, WGS84

0 150
Feet

Shiloh Church Road
Nathalie, Halifax County, Virginia

Figure 7
XRF - Lead Screening and
Surface Soil Sampling
Lead Concentrations

TDD#:W501-18-04-005
Contract: EP-S3-15-02
Date: 12/11/2018

PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 16: View of screening the surface soil for metals content using a X-ray fluorescence Analyzer (XRF).
DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 17: View of the screening results of the XRF. Lead is reported at 1.20%, or 12,000 parts per million (ppm). Arsenic is reported at 313 ppm.

DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTOGRAPHIC DOCUMENTATION LOG
Shiloh Church Road Site • Nathalie, VA • Removal Assessment
EPA Region III START • Contract No. EP-S3-15-02 • TDD No. W501-18-04-005

PHOTO 18: View of battery casing remnants observed on the back of a property, northwest of the Site.
DATE: 31 July 2018

PHOTOGRAPHER: Weston START



PHOTO 19: View of piles of battery casings lining the sides of the dirt road on the property northwest of the Site.
DATE: 31 July 2018

PHOTOGRAPHER: Weston START



3.4.4 SOIL BORINGS – SUBSURFACE SOIL SAMPLING

On July 31 and August 1, 2018, WESTON, with its subcontractor, JETCO, Inc., installed eight soil borings at the Site. Soil borings were installed and subsequent soil samples were collected using direct push technology (DPT) with a Geoprobe® drill rig. WESTON collected near surface (1.0 – 2.0 ft bgs) and subsurface (field-determined depth) soil samples from eight soil borings in accordance with the FSP (WESTON, 2018a). The soil boring locations are shown on Figure 6. After collecting undisturbed soil samples from the soil cores in the acetate sleeves for VOC analysis using a Terracore® sampler, the remaining soil core was homogenized in a dedicated aluminum pan and collected in appropriate sampling containers for analysis for additional parameters.

With the exception of SB-1, which had Geoprobe refusal at 24 ft bgs, soil borings were advanced to Geoprobe refusal between approximately 14 ft bgs to 25 ft bgs. Drilling of SB-1 continued to 52 ft bgs using hollow-stem augers in an attempt to locate groundwater. After allowing borehole SB-1 to stabilize, no water was detected at 52 ft bgs; therefore, the borehole was properly abandoned using bentonite grout.

The soil was observed to be predominantly brown to reddish brown sandy silt and clayey silt with some mica fragments to a depth between 5 and 10 ft bgs. Below 10 feet, more dense saprolitic soils (weathered mica schist) were encountered. Groundwater was not encountered above 25 ft bgs. Weathered bedrock, which consisted of light gray to reddish brown mica schist, was encountered between 14 and 25 feet bgs. Soil boring logs are included in Appendix A.

Each 5-foot soil core was screened using a photoionization detector (PID), an XRF, and a Ludlum 2221 with a 44-10 probe. No visible contamination was observed in the soil borings. For all eight soil borings, no radioactive readings above background were detected. For all eight soil borings, lead concentrations using the XRF to screen soil cores ranged from non-detect (ND) in SB-07/18-19 ft bgs to 985 mg/kg in SB-06/1-2 ft bgs. Field air monitoring equipment indicated the presence of VOCs at a concentration range of 1,600-2,810 parts per billion (ppb) in soil boring SB-01 at a depth of 19-20 ft bgs. Based on this elevated reading and a slight odor at this depth, the subsurface sample was collected at this depth. Two additional soil samples were collected from hollow stem

auger cuttings in SB-1 at 35 ft bgs (slight odor and PID reading 1.8 ppm) and a 50 ft bgs (interval above auger refusal at 52 ft bgs).

For all other soil borings, the subsurface sample depth was in the 1-foot interval above refusal and based on the deepest interval achieved because no noticeable contamination was observed. As outlined in the FSP (WESTON, 2018a), soil boring samples were submitted for analysis of VOCs, SVOCs, PCBs, and TAL metals, including mercury.

3.4.5 SOIL BORING RESULTS

Analytical results for sub surface soil samples collected from the soil borings are provided in Table 5.

TCE was detected in SB01 at 1 to 2 feet at 39 µg/kg and at 52 µg/kg from 19 to 20 feet. 1,2-Dichloroethane was detected in SB01 at 39 µg/kg at a depth of 19 to 20 feet. TCE was detected in SB02 at 5 µg/kg from 24 to 25 feet. PCE was detected at location SB06 at 13 µg/kg at a depth of 18 to 19 feet. PCBs were detected in soil samples collected from 1- to 2-foot interval. Four locations detected PCBs from 6.6 to 49 µg/kg. PCBs were detected at SB06 at 2,400 µg/kg and SB08 at 620 µg/kg from the 1- to 2-foot interval.

Table 5
Soil Boring Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with): CLP Number: Field Sample ID (beginning with): Depth: Type of Analysis: Matrix: Units: Date Sampled:	SB01-0102-00 COAD8	SB01-1920-00 COAD9	SB01-3035-00 COAE0	SB01-5050-00 COAE2	SB02-0102-00 COAE4	SB02-2425-00 COAE3				
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,1,2,2-Tetrachloroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,1,2-Trichloro-1,2,2-trifluoroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,1,2-Trichloroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,1-Dichloroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,1-Dichloroethene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2,3-Trichlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2,4-trichlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2-Dibromo-3-chloropropane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2-Dibromoethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2-Dichlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,2-Dichloroethane	4.7	U	39		6.3	U	5.9	U	4.8	U
1,2-Dichloropropane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,3-Dichlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
1,4-Dichlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
2-Butanone	9.4	U	11	U	13	U	12	U	9.6	U
2-Hexanone	9.4	U	11	U	13	U	12	U	9.6	U
4-Methyl-2-pentanone	9.4	U	11	U	13	U	12	U	9.6	U
Acetone	9.4	U	11	U	14		10	J	9.6	U
Benzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Bromochloromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Bromodichloromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Bromoform	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Bromomethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Carbon disulfide	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Carbon tetrachloride	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Chlorobenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Chloroethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Chloroform	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Chloromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
cis-1,2-Dichloroethene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
cis-1,3-Dichloropropene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Cyclohexane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Dibromochloromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Dichlorodifluoromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Ethylbenzene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Isopropylbenzene	5	U	5.3	U	6.3	U	5.9	U	4.8	U
m,p-Xylene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Methyl Acetate	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Methyl tert-butyl Ether	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Methylcyclohexane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Methylene chloride	4.7	U	5.6	U	6.6	U	5.9	U	4.8	U
o-xylene	5	U	5.3	U	6.3	U	5.9	U	4.8	U
Styrene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Tetrachloroethene	6		5.3	U	6.3	U	5.9	U	4.8	U
Toluene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
trans-1,2-Dichloroethene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
trans-1,3-Dichloropropene	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Trichloroethene	33		52		6.3	U	5.9	U	4.8	U
Trichlorofluoromethane	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U
Vinyl chloride	4.7	U	5.3	U	6.3	U	5.9	U	4.8	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SB = Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the

Table 5
Soil Boring Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with): CLP Number: Field Sample ID (beginning with): Depth: Type of Analysis: Matrix: Units: Date Sampled:	SB03-0102-00 COAE5	SB03-1617-00 COAE6	SB04-0102-00 COAE7	SB04-1314-00 COAE8	SB05-0102-00 COAE9	SB05-1415-00 COAFO						
Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	
1,1,1-Trichloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,1,2,2-Tetrachloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,1,2-Trichloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,1-Dichloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,1-Dichloroethene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2,3-Trichlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2,4-trichlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2-Dibromo-3-chloropropane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2-Dibromoethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2-Dichlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2-Dichloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,2-Dichloropropane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,3-Dichlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
1,4-Dichlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
2-Butanone	8.4	U	9.2	U	7.8	U	8.2	U	10	U	9.1	U
2-Hexanone	8.4	U	9.2	U	7.8	U	8.2	U	10	U	9.1	U
4-Methyl-2-pentanone	8.4	U	9.2	U	7.8	U	8.2	U	10	U	9.1	U
Acetone	8.4	U	9.2	U	45		8.2	U	7.2	J	9.1	U
Benzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Bromochloromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Bromodichloromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Bromoform	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Bromomethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Carbon disulfide	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Carbon tetrachloride	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Chlorobenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Chloroethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Chloroform	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Chloromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
cis-1,2-Dichloroethene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
cis-1,3-Dichloropropene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Cyclohexane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Dibromochloromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Dichlorodifluoromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Ethylbenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Isopropylbenzene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	5	U
m,p-Xylene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Methyl Acetate	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Methyl tert-butyl Ether	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Methylcyclohexane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Methylene chloride	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
o-xylene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	5	U
Styrene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Tetrachloroethene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Toluene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
trans-1,2-Dichloroethene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
trans-1,3-Dichloropropene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Trichloroethene	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Trichlorofluoromethane	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U
Vinyl chloride	4.2	U	4.6	U	3.9	U	4.1	U	5.1	U	4.6	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SB = Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the

Table 5
Soil Boring Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with): CLP Number: Field Sample ID (beginning with): Depth: Type of Analysis: Matrix: Units: Date Sampled:	SB06-0102-00 COAF1 SB06 1 to 2 feet VOCs Subsurface Soil µg/kg 01-Aug-18	SB06-1819-00 COAF3 SB06 18 to 19 feet VOCs Subsurface Soil µg/kg 01-Aug-18	SB07-0102-00 COAF2 SB07 1 to 2 feet VOCs Subsurface Soil µg/kg 01-Aug-18	SB07-1819-00 COAF4 SB07 18 to 19 feet VOCs Subsurface Soil µg/kg 01-Aug-18	SB08-0102-00 COAG0 SB08 1 to 2 feet VOCs Subsurface Soil µg/kg 01-Aug-18	SB08-1415-00 COAG1 SB08 14 to 15 feet VOCs Subsurface Soil µg/kg 01-Aug-18				
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,1,2,2-Tetrachloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,1,2-Trichloro-1,2,2-trifluoroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,1,2-Trichloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,1-Dichloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,1-Dichloroethene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2,3-Trichlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2,4-trichlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2-Dibromo-3-chloropropane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2-Dibromoethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2-Dichlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2-Dichloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,2-Dichloropropane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,3-Dichlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
1,4-Dichlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
2-Butanone	9.6	U	9	U	10	U	9.5	U	14	U
2-Hexanone	9.6	U	9	U	10	U	9.5	U	14	U
4-Methyl-2-pentanone	9.6	U	9	U	10	U	9.5	U	14	U
Acetone	9.6	U	9	U	10	U	9.5	U	14	U
Benzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Bromochloromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Bromodichloromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Bromoform	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Bromomethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Carbon disulfide	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Carbon tetrachloride	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Chlorobenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Chloroethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Chloroform	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Chloromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
cis-1,2-Dichloroethene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
cis-1,3-Dichloropropene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Cyclohexane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Dibromochloromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Dichlorodifluoromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Ethylbenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Isopropylbenzene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
m,p-Xylene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Methyl Acetate	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Methyl tert-butyl Ether	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Methylcyclohexane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Methylene chloride	4.8	U	4.5	U	5	U	4.8	U	6.8	U
o-xylene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Styrene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Tetrachloroethene	4.8	U	13		5	U	4.8	U	6.8	U
Toluene	4.8	U	4.5	U	5	U	4.8	U	5.7	J
trans-1,2-Dichloroethene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
trans-1,3-Dichloropropene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Trichloroethene	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Trichlorofluoromethane	4.8	U	4.5	U	5	U	4.8	U	6.8	U
Vinyl chloride	4.8	U	4.5	U	5	U	4.8	U	6.8	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

SB = Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the

Table 5
Soil Boring Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	SB01-0102-00	SB01-1920-00	SB01-3535-00	SB02-0102-00	SB02-2425-00					
CLP Number	COAD8	COAD9	COAE1	COAE4	COAE3					
Location	SB01	SB01	SB01	SB02	SB02					
Depth	1 to 2 feet	19 to 20 feet	30 to 35 feet	1 to 2 feet	24 to 25 feet					
Type of Analysis	SVOCs	SVOCs	SVOCs	SVOCs	SVOCs					
Matrix	Subsurface Soil									
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg					
Date Sampled	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18					
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
1,1-Biphenyl	210	U	210	U	180	U	220	U	240	U
1,2,4,5-Tetrachlorobenzene	210	U	210	U	180	U	220	U	240	U
1,4-Dioxane	82	U	82	U	73	U	88	U	94	U
2,2'-oxybis(1-Chloropropane)	400	U	410	U	360	U	430	U	460	U
2,3,4,6-Tetrachlorophenol	210	U	210	U	180	U	220	U	240	U
2,4,5-Trichloropheno	210	U	210	U	180	U	220	U	240	U
2,4,6-Trichlorophenol	210	U	210	U	180	U	220	U	240	U
2,4-Dichlorophenol	210	U	210	U	180	U	220	U	240	U
2,4-Dimethylphenol	210	U	210	U	180	U	220	U	240	U
2,4-Dinitrophenol	400	U	410	U	360	U	430	U	460	U
2,4-Dinitrotoluene	210	U	210	U	180	U	220	U	240	U
2,6-Dinitrotoluene	210	U	210	U	180	U	220	U	240	U
2-Chloronaphthalene	210	U	210	U	180	U	220	U	240	U
2-Chlorophenol	210	U	210	U	180	U	220	U	240	U
2-Methylnaphthalene	210	U	210	U	180	U	220	U	240	U
2-Methylphenol	400	U	410	U	360	U	430	U	460	U
2-Nitroaniline	210	U	210	U	180	U	220	U	240	U
2-Nitrophenol	210	U	210	U	180	U	220	U	240	U
3,3-Dichlorobenzidine	400	U	410	U	360	U	430	U	460	U
3-Nitroaniline	400	U	410	U	360	U	430	U	460	U
4,6-Dinitro-2-methylphenol	400	U	410	U	360	U	430	U	460	U
4-Bromophenyl-phenylether	210	U	210	U	180	U	220	U	240	U
4-Chloro-3-methylphenol	210	U	210	U	180	U	220	U	240	U
4-Chloroaniline	400	U	410	U	360	U	430	U	460	U
4-Chlorophenyl-phenylether	210	U	210	U	180	U	220	U	240	U
4-Methylphenol	400	U	410	U	360	U	430	U	460	U
4-Nitroaniline	400	U	410	U	360	U	430	U	460	U
4-Nitrophenol	400	U	410	U	360	U	430	U	460	U
Acenaphthene	210	U	210	U	180	U	220	U	240	U
Acenaphthylene	210	U	210	U	180	U	220	U	240	U
Acetophenone	400	U	410	U	360	U	430	U	460	U
Anthracene	210	U	210	U	180	U	220	U	240	U
Atrazine	400	U	410	U	360	U	430	U	460	U
Benzaldehyde	400	U	410	U	360	U	430	U	460	U
Benz(a)anthracene	210	U	210	U	180	U	220	U	240	U
Benz(a)pyrene	210	U	210	U	180	U	220	U	240	U
Benz(b)fluoranthene	210	U	210	U	180	U	220	U	240	U
Benz(g,h,i)perylene	210	U	210	U	180	U	220	U	240	U
Benz(k)fluoranthene	210	U	210	U	180	U	220	U	240	U
Bis(2-Chloroethoxy)methane	210	U	210	U	180	U	220	U	240	U
Bis(2-Chloroethyl)ether	400	U	410	U	360	U	430	U	460	U
Bis(2-ethylhexyl)phthalate	210	U	210	U	180	U	220	U	240	U
Butylbenzylphthalate	210	U	210	U	180	U	220	U	240	U
Caprolactam	400	U	410	U	360	U	430	U	460	U
Carbazole	400	U	410	U	360	U	430	U	460	U
Chrysene	210	U	210	U	180	U	220	U	240	U
Dibenz(a,h)anthracene	210	U	210	U	180	U	220	U	240	U
Dibenzofuran	210	U	210	U	180	U	220	U	240	U
Diethylphthalate	210	U	210	U	180	U	220	U	240	U
Dimethylphthalate	600		680		460		440		560	
Di-n-butylphthalate	210	U	210	U	180	U	220	U	240	U
Di-n-octyl phthalate	400	U	410	U	360	U	430	U	460	U
Fluoranthene	400	U	410	U	360	U	430	U	460	U
Fluorene	210	U	210	U	180	U	220	U	240	U
Hexachlorobenzene	210	U	210	U	180	U	220	U	240	U
Hexachlorobutadiene	210	U	210	U	180	U	220	U	240	U
Hexachlorocyclopentadiene	400	U	410	U	360	U	430	U	460	U
Hexachloroethane	210	U	210	U	180	U	220	U	240	U
Indeno(1,2,3-cd)pyrene	210	U	210	U	180	U	220	U	240	U
Isophorone	210	U	210	U	180	U	220	U	240	U
Naphthalene	210	U	210	U	180	U	220	U	240	U
Nitrobenzene	210	U	210	U	180	U	220	U	240	U
N-Nitroso-di-n-propylamine	210	U	210	U	180	U	220	U	240	U
N-Nitrosodiphenylamine	210	U	210	U	180	U	220	U	240	U
Pentachlorophenol	400	U	410	U	360	U	430	U	460	U
Phenanthrene	210	U	210	U	180	U	220	U	240	U
Phenol	400	U	47	J	37	J	430	U	460	U
Pyrene	210	U	210	U	180	U	220	U	240	U

Legend:
All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number = Contract Laboratory Program Sample Identifier Number

S8 = Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 5
Soil Boring Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	SB03-0102-00	SB03-1617-00	SB04-0102-00	SB04-1314-00	SB05-0102-00					
CLP Number	COAE5	COAE6	COAE7	COAE8	COAE9					
Location	SB03	SB03	SB04	SB04	SB05					
Depth	1 to 2 feet	16 to 17 feet	1 to 2 feet	13 to 14 feet	1 to 2 feet					
Type of Analysis	SVOCs	SVOCs	SVOCs	SVOCs	SVOCs					
Matrix	Subsurface Soil									
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg					
Date Sampled	31-Jul-18	31-Jul-18	01-Aug-18	01-Aug-18	01-Aug-18					
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
1,1-Biphenyl	200	U	190	U	190	U	180	U	240	U
1,2,4,5-Tetrachlorobenzene	200	U	190	U	190	U	180	U	240	U
1,4-Dioxane	77	U	76	U	75	U	72	U	93	U
2,2-Oxybis(1-Chloropropane)	380	U	380	U	370	U	360	U	460	U
2,3,4,6-Tetrachlorophenol	200	U	190	U	190	U	180	U	240	U
2,4,5-Trichloropheno	200	U	190	U	190	U	180	U	240	U
2,4,6-Trichlorophenol	200	U	190	U	190	U	180	U	240	U
2,4-Dichlorophenol	200	U	190	U	190	U	180	U	240	U
2,4-Dimethylphenol	200	U	190	U	190	U	180	U	240	U
2,4-Dinitrophenol	380	U	380	U	370	U	360	U	460	U
2,4-Dinitrotoluene	200	U	190	U	190	U	180	U	240	U
2,6-Dinitrotoluene	200	U	190	U	190	U	180	U	240	U
2-Chloronaphthalene	200	U	190	U	190	U	180	U	240	U
2-Chlorophenol	200	U	190	U	190	U	180	U	240	U
2-Methylnaphthalene	200	U	190	U	190	U	180	U	240	U
2-Methylphenol	380	U	380	U	370	U	360	U	460	U
2-Nitroaniline	200	U	190	U	190	U	180	U	240	U
2-Nitrophenol	200	U	190	U	190	U	180	U	240	U
3,3-Dichlorobenzidine	380	U	380	U	370	U	360	U	460	U
3-Nitroaniline	380	U	380	U	370	U	360	U	460	U
4,6-Dinitro-2-methylphenol	380	U	380	U	370	U	360	U	460	U
4-Bromophenyl-phenylether	200	U	190	U	190	U	180	U	240	U
4-Chloro-3-methylphenol	200	U	190	U	190	U	180	U	240	U
4-Chloroaniline	380	U	380	U	370	U	360	U	460	U
4-Chlorophenyl-phenylether	200	U	190	U	190	U	180	U	240	U
4-Methylphenol	380	U	380	U	370	U	360	U	460	U
4-Nitroaniline	380	U	380	U	370	U	360	U	460	U
4-Nitrophenol	380	U	380	U	370	U	360	U	460	U
Acenaphthene	200	U	190	U	190	U	180	U	240	U
Acenaphthylene	200	U	190	U	190	U	180	U	240	U
Acetophenone	380	U	380	U	370	U	360	U	460	U
Anthracene	200	U	190	U	190	U	180	U	240	U
Atrazine	380	U	380	U	370	U	360	U	460	U
Benzaldehyde	380	U	380	U	370	U	360	U	460	U
Benz(a)anthracene	200	U	190	U	190	U	180	U	240	U
Benz(a)pyrene	200	U	190	U	190	U	180	U	240	U
Benz(b)fluoranthene	200	U	190	U	190	U	180	U	240	U
Benz(g,h,i)perylene	200	U	190	U	190	U	180	U	240	U
Benz(k)fluoranthene	200	U	190	U	190	U	180	U	240	U
Bis(2-Chloroethoxy)methane	200	U	190	U	190	U	180	U	240	U
Bis(2-Chloroethyl)ether	380	U	380	U	370	U	360	U	460	U
Bis(2-ethylhexyl)phthalate	200	U	190	U	190	U	180	U	240	U
Butylbenzylphthalate	200	U	190	U	190	U	180	U	240	U
Caprolactam	380	U	380	U	370	U	360	U	460	U
Carbazole	380	U	380	U	370	U	360	U	460	U
Chrysene	200	U	190	U	190	U	180	U	240	U
Dibenz(a,h)anthracene	200	U	190	U	190	U	180	U	240	U
Dibenzofuran	200	U	190	U	190	U	180	U	240	U
Diethylphthalate	200	U	190	U	190	U	180	U	240	U
Dimethylphthalate	380	470	260	380	380	360	360	360	360	360
Di-n-butylphthalate	200	U	190	U	190	U	180	U	240	U
Di-n-octyl phthalate	380	U	380	U	370	U	360	U	460	U
Fluoranthene	380	U	380	U	370	U	360	U	460	U
Fluorene	200	U	190	U	190	U	180	U	240	U
Hexachlorobenzene	200	U	190	U	190	U	180	U	240	U
Hexachlorobutadiene	200	U	190	U	190	U	180	U	240	U
Hexachlorocyclopentadiene	380	U	380	U	370	U	360	U	460	U
Hexachloroethane	200	U	190	U	190	U	180	U	240	U
Indeno(1,2,3-cd)pyrene	200	U	190	U	190	U	180	U	240	U
Isophorone	200	U	190	U	190	U	180	U	240	U
Naphthalene	200	U	190	U	190	U	180	U	240	U
Nitrobenzene	200	U	190	U	190	U	180	U	240	U
N-Nitroso-di-n-propylamine	200	U	190	U	190	U	180	U	240	U
N-Nitrosodiphenylamine	200	U	190	U	190	U	180	U	240	U
Pentachlorophenol	380	U	380	U	370	U	360	U	460	U
Phenanthrene	200	U	190	U	190	U	180	U	240	U
Phenol	380	U	41	J	370	U	40	J	460	U
Pyrene	200	U	190	U	190	U	180	U	240	U

Legend:
All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number = Contract Laboratory Program Sample Identifier Number

S8 - Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 5
Soil Boring Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	SB05-1415-00	SB06-0102-00	SB06-1819-00	SB07-0102-00	SB07-1819-00					
CLP Number:	COAF0	COAF1	COAF3	COAF2	COAF4					
Location:	SB05	SB06	SB06	SB07	SB07					
Depth	14 to 15 feet	1 to 2 feet	18 to 19 feet	1 to 2 feet	18 to 19 feet					
Type of Analysis:	SVOCs	SVOCs	SVOCs	SVOCs	SVOCs					
Matrix Units:	Subsurface Soil µg/kg									
Date Sampled	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18					
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
1,1-Biphenyl	190	U	220	U	200	U	220	U	210	U
1,2,4,5-Tetrachlorobenzene	190	U	220	U	200	U	220	U	210	U
1,4-Dioxane	76	U	86	U	79	U	85	U	81	U
2,2'-oxybis(1-Chloropropane)	380	U	420	U	390	U	420	U	400	U
2,3,4,6-Tetrachlorophenol	190	U	220	U	200	U	220	U	210	U
2,4,5-Trichloropheno	190	U	220	U	200	U	220	U	210	U
2,4,6-Trichlorophenol	190	U	220	U	200	U	220	U	210	U
2,4-Dichlorophenol	190	U	220	U	200	U	220	U	210	U
2,4-Dimethylphenol	190	U	220	U	200	U	220	U	210	U
2,4-Dinitrophenol	380	U	420	U	390	U	420	U	400	U
2,4-Dinitrotoluene	190	U	220	U	200	U	220	U	210	U
2,6-Dinitrotoluene	190	U	220	U	200	U	220	U	210	U
2-Chloronaphthalene	190	U	220	U	200	U	220	U	210	U
2-Chlorophenol	190	U	220	U	200	U	220	U	210	U
2-Methylnaphthalene	190	U	220	U	200	U	220	U	210	U
2-Methylphenol	380	U	420	U	390	U	420	U	400	U
2-Nitroaniline	190	U	220	U	200	U	220	U	210	U
2-Nitrophenol	190	U	220	U	200	U	220	U	210	U
3,3-Dichlorobenzidine	380	U	420	U	390	U	420	U	400	U
3-Nitroaniline	380	U	420	U	390	U	420	U	400	U
4,6-Dinitro-2-methylphenol	380	U	420	U	390	U	420	U	400	U
4-Bromophenyl-phenylether	190	U	220	U	200	U	220	U	210	U
4-Chloro-3-methylphenol	190	U	220	U	200	U	220	U	210	U
4-Chloroaniline	380	U	420	U	390	U	420	U	400	U
4-Chlorophenyl-phenylether	190	U	220	U	200	U	220	U	210	U
4-Methylphenol	380	U	420	U	390	U	420	U	400	U
4-Nitroaniline	380	U	420	U	390	U	420	U	400	U
4-Nitrophenol	380	U	420	U	390	U	420	U	400	U
Acenaphthene	190	U	220	U	200	U	220	U	210	U
Acenaphthylene	190	U	220	U	200	U	220	U	210	U
Acetophenone	380	U	420	U	390	U	420	U	400	U
Anthracene	190	U	220	U	200	U	220	U	210	U
Atrazine	380	U	420	U	390	U	420	U	400	U
Benzaldehyde	380	U	420	U	390	U	420	U	400	U
Benz(a)anthracene	190	U	220	U	200	U	220	U	210	U
Benz(a)pyrene	190	U	220	U	200	U	220	U	210	U
Benz(b)fluoranthene	190	U	220	U	200	U	220	U	210	U
Benz(g,h,i)perylene	190	U	220	U	200	U	220	U	210	U
Benz(k)fluoranthene	190	U	220	U	200	U	220	U	210	U
Bis(2-Chloroethoxy)methane	190	U	220	U	200	U	220	U	210	U
Bis(2-Chloroethyl)ether	380	U	420	U	390	U	420	U	400	U
Bis(2-ethylhexyl)phthalate	190	U	130	J	200	U	220	U	210	U
Butylbenzylphthalate	190	U	220	U	200	U	220	U	210	U
Caprolactam	380	U	420	U	390	U	420	U	400	U
Carbazole	380	U	420	U	390	U	420	U	400	U
Chrysene	190	U	220	U	200	U	220	U	210	U
Dibenz(a,h)anthracene	190	U	220	U	200	U	220	U	210	U
Dibenzofuran	190	U	220	U	200	U	220	U	210	U
Diethylphthalate	190	U	220	U	200	U	220	U	210	U
Dimethylphthalate	340		300		380		300		390	
Di-n-butylphthalate	190	U	220	U	200	U	220	U	210	U
Di-n-octyl phthalate	380	U	420	U	390	U	420	U	400	U
Fluoranthene	380	U	420	U	390	U	420	U	400	U
Fluorene	190	U	220	U	200	U	220	U	210	U
Hexachlorobenzene	190	U	220	U	200	U	220	U	210	U
Hexachlorobutadiene	190	U	220	U	200	U	220	U	210	U
Hexachlorocyclopentadiene	380	U	420	U	390	U	420	U	400	U
Hexachloroethane	190	U	220	U	200	U	220	U	210	U
Indeno(1,2,3-cd)pyrene	190	U	220	U	200	U	220	U	210	U
Isophorone	190	U	220	U	200	U	220	U	210	U
Naphthalene	190	U	220	U	200	U	220	U	210	U
Nitrobenzene	190	U	220	U	200	U	220	U	210	U
N-Nitroso-di-n-propylamine	190	U	220	U	200	U	220	U	210	U
N-Nitrosodiphenylamine	190	U	220	U	200	U	220	U	210	U
Pentachlorophenol	380	U	420	U	390	U	420	U	400	U
Phenanthrene	190	U	220	U	200	U	220	U	210	U
Phenol	39	J	420	U	58	J	43	J	55	J
Pyrene	190	U	220	U	200	U	220	U	210	U

Legend:
All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number = Contract Laboratory Program Sample Identifier Number

S8 = Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the appr concentration of the analyte in the sample

Table 5
Soil Boring Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	SB08-0102-00	SB08-1415-00
CLP Number	COAG0	COAG1
Location	SB07	SB07
Depth	1 to 2 feet	14 to 15 feet
Type of Analysis	SVOCs	SVOCs
Matrix	Subsurface Soil	Subsurface Soil
Units	µg/kg	µg/kg
Date Sampled	01-Aug-18	01-Aug-18
Analyte	Result	Flag
1,1-Biphenyl	230	U
1,2,4,5-Tetrachlorobenzene	230	U
1,4-Dioxane	89	U
2,2-oxybis(1-Chloropropane)	440	U
2,3,4,6-Tetrachlorophenol	230	U
2,4,5-Trichlorophenol	230	U
2,4,6-Trichlorophenol	230	U
2,4-Dichlorophenol	230	U
2,4-Dimethylphenol	230	U
2,4-Dinitrophenol	440	U
2,4-Dinitrotoluene	230	U
2,6-Dinitrotoluene	230	U
2-Chloronaphthalene	230	U
2-Chlorophenol	230	U
2-Methylnaphthalene	230	U
2-Methylphenol	440	U
2-Nitroaniline	230	U
2-Nitrophenol	230	U
3,3-Dichlorobenzidine	440	U
3-Nitroaniline	440	U
4,6-Dinitro-2-methylphenol	440	U
4-Bromophenyl-phenylether	230	U
4-Chloro-3-methylphenol	230	U
4-Chloroaniline	440	U
4-Chlorophenyl-phenylether	230	U
4-Methylphenol	440	U
4-Nitroaniline	440	U
4-Nitrophenol	440	U
Acenaphthene	230	U
Acenaphthylene	230	U
Acetophenone	440	U
Anthracene	230	U
Atrazine	440	U
Benzaldehyde	440	U
Benzo[a]anthracene	230	U
Benzo[a]pyrene	230	U
Benzo[b]fluoranthene	230	U
Benzo(g,h,i)perylene	230	U
Benzo(k)fluoranthene	230	U
Bis(2-Chloroethoxy)methane	230	U
Bis(2-Chloroethyl)ether	440	U
Bis(2-ethylhexyl)phthalate	230	U
Butylbenzylphthalate	230	U
Caprolactam	440	U
Carbazole	440	U
Chrysene	230	U
Dibenz(a,h)anthracene	230	U
Dibenzofuran	230	U
Diethylphthalate	230	U
Dimethylphthalate	240	360
Di-n-butylphthalate	230	U
Di-n-octyl phthalate	440	U
Fluoranthene	440	U
Fluorene	230	U
Hexachlorobenzene	230	U
Hexachlorobutadiene	230	U
Hexachlorocyclopentadiene	440	U
Hexachloroethane	230	U
Indeno(1,2,3-cd)pyrene	230	U
Isophorone	230	U
Naphthalene	230	U
Nitrobenzene	230	U
N-Nitroso-di-n-propylamine	230	U
N-Nitrosodiphenylamine	230	U
Pentachlorophenol	440	U
Phenanthrene	230	U
Phenol	440	U
Pyrene	230	U

Legend:

All values are presented in micrograms per kilogram (µg/kg).

Values in boldface indicate a detected reportable value.

CLP Number = Contract Laboratory Program Sample Identifier Number

S8 - Soil Boring Sample

U = Analyte was analyzed for but was not detected at a level greater than or equal adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 5
Soil Boring Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID	SB01-0102-00	SB01-1920-00	SB02-0102-00	SB02-2425-00	SB03-0102-00	SB03-1617-00	SB04-0102-00	SB04-1314-00
CLP Number	COAD8	COAD9	COAE4	COAE3	COAE5	COAE6	COAE7	COAE8
Location	SB-01	SB-01	SB-02	SB-02	SB-03	SB-03	SB-04	SB-04
Depth	1 to 2 feet	19 to 20 feet	1 to 2 feet	24 to 25 feet	1 to 2 feet	16 to 17 feet	1 to 2 feet	13 to 14 feet
Type of Analysis	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs
Matrix	Soil Boring	Soil Boring						
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Date Sampled	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	01-Aug-18	01-Aug-18
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	40	U	40	U	43	U	46	U
Aroclor-1221	40	U	40	U	43	U	46	U
Aroclor-1232	40	U	40	U	43	U	46	U
Aroclor-1242	40	U	40	U	43	U	46	U
Aroclor-1248	40	U	40	U	43	U	46	U
Aroclor-1254	40	U	40	U	19	J	46	U
Aroclor-1260	40	U	40	U	43	U	46	U
Aroclor-1262	40	U	40	U	43	U	46	U
Aroclor-1268	40	U	40	U	43	U	46	U

Legend:

Values in boldface indicate a detected reportable value

CLP Number = Contract Laboratory Program Sample Identifier Number

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

UJ = Not detected quantitation limit may be inaccurate or imprecise

Table 5
Soil Boring Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID	SB05-0102-00	SB05-1415-00	SB06-0102-00	SB06-1819-00	SB07-0102-00	SB07-1819-00	SB08-0102-00	SB08-1415-00
CLP Number	COAE9	COAFO	COAF1	COAF3	COAF2	COAF4	COAG0	COAG1
Location	SB-05	SB-05	SB-06	SB-06	SB-07	SB-07	SB-08	SB-08
Depth	1 to 2 feet	14 to 15 feet	1 to 2 feet	18 to 19 feet	1 to 2 feet	18 to 19 feet	1 to 2 feet	14 to 15 feet
Type of Analysis	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs	PCBs
Matrix	Soil Boring	Soil Boring						
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Date Sampled	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18	01-Aug-18
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	46	U	38	U	42	U	39	U
Aroclor-1221	46	U	38	U	42	U	39	U
Aroclor-1232	46	U	38	U	42	U	39	U
Aroclor-1242	46	U	38	U	42	U	39	U
Aroclor-1248	46	U	38	U	42	U	39	U
Aroclor-1254	6.6	J	38	U	2400	J	39	U
Aroclor-1260	46	U	38	U	42	U	39	U
Aroclor-1262	46	U	38	U	42	U	39	U
Aroclor-1268	46	U	38	U	42	U	39	U

Legend:

Values in boldface indicate a det
CLP Number = Contract Laborat
U = Analyte was analyzed for bu
J = Analyte was positively identif
UJ = Not detected quantitation l

Table 5
Soil Boring Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID (begins with SCR-0718-):	SB01-0102-00	SB01-1920-00	SB02-0102-00	SB02-2425-00	SB03-0102-00	SB03-1617-00	SB04-0102-00	SB04-1314-00
CLP Number:	MCOAD8	MCOAD9	MCOAE4	MCOAE3	MCOAE5	MCOAE6	MCOAE7	MCOAE8
Location Number:	SB-01	SB-01	SB-02	SB-02	SB-03	SB-03	SB-04	SB-04
Depth:	1 to 2 feet	19 to 20 feet	1 to 2 feet	24 to 25 feet	1 to 2 feet	16 to 17 feet	1 to 2 feet	13 to 14 feet
Type of Analysis:	Metals							
Matrix:	Subsurface Soil							
Units:	mg/kg							
Date Sampled:	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18	01-Aug-18	01-Aug-18
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aluminum	53,100		37,700		39,100		25,800	
Antimony	7	UJ	6.9	UJ	7.3	UJ	6.8	UJ
Arsenic	6.9		1.2	U	6.3		1	J
Barium	46.8		243		56.1		92.7	
Beryllium	0.38	J	0.42	J	0.39	J	0.35	J
Cadmium	1.3	J-	0.58	UJ	1.2	J-	0.57	UJ
Calcium	316	J	575	U	260	J	567	U
Chromium	27		4		28.7		0.91	J
Cobalt	2.1	J	21.8		2.8	J	4.9	J
Copper	29.8		33.4		58.8		21.5	
Iron	36,900		13,500		29,600		8,700	
Lead	34	J	92.6		25.6	J	9.1	J
Magnesium	714		186	J	883		718	
Manganese	55.6		2,910		46.6		550	
Mercury	0.1	J	0.11	U	0.12		0.1	U
Nickel	8		2.3	J	8.6		0.68	J
Potassium	1,260		575	U	1,160		1,130	
Selenium	0.7	J	0.83	J	0.73	J	4	U
Silver	1.2	U	0.065	J	1.2	U	1.1	U
Sodium	619		46.6	J	97.1	J	33.2	J
Thallium	2.9	UJ	2.9	UJ	3.1	UJ	2.8	UJ
Vanadium	56.1		24.9		51.6		6.4	
Zinc	30.4		34.8		36.3		31.2	

Notes:

All values are presented in milligrams per kilogram (mg/kg).

Values in boldface indicate a detected reportable value

NL = Not listed

J = Analyte present reported value may not be accurate or precise.

U = Not detected.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

CLP Number = Contract Laboratory Program Sample Identifier Number

SB = Soil Boring Sample

Table 5
Soil Boring Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID (begins with SCR-0718-)	SB05-0102-00	SB05-1415-00	SB06-0102-00	SB06-1819-00	SB07-0102-00	SB07-1819-00	SB08-0102-00	SB08-1415-00
CLP Number:	MCOAE9	MCOAF0	MCOAF1	MCOAF3	MCOAF2	MCOAF4	MCOAG0	MCOAG1
Location Number:	SB-05	SB-05	SB-06	SB-06	SB-07	SB-07	SB-08	SB-08
Depth:	1 to 2 feet	14 to 15 feet	1 to 2 feet	18 to 19 feet	1 to 2 feet	18 to 19 feet	1 to 2 feet	14 to 15 feet
Type of Analysis:	Metals							
Matrix:	Subsurface Soil							
Units:	mg/kg							
Date Sampled:	01-Aug-18							
Analyte	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aluminum	40,300		31,800		34,100		11,700	
Antimony	6.4	UJ	6.8	UJ	8	J	6.9	UJ
Arsenic	5.6		0.47	J	10.3		1.7	
Barium	43.3		64.4		153		139	
Beryllium	0.42	J	0.3	J	0.31	J	0.43	J
Cadmium	1.1	J-	0.57	UJ	30.9		0.95	J-
Calcium	105	J	569	U	1,180		571	U
Chromium	29		0.55	J	55.3		7.6	
Cobalt	2.3	J	2.7	J	9.5		9.4	
Copper	21.5		11.5		1050		25.5	
Iron	32,100		7,480		64,500		23,000	
Lead	39.8	J	111		856		65.7	
Magnesium	841		217	J	1,390		53.3	J
Manganese	66.5		430		296		2,310	
Mercury	0.086	J	0.11	U	0.27		0.11	U
Nickel	7.5		0.78	J	40.7		3.2	J
Potassium	1,360		569	U	594	U	571	U
Selenium	0.71	J	4	U	0.63	J	1.1	J
Silver	1.1	U	1.1	U	0.93	J	0.43	J
Sodium	31	J	569	U	42	J	571	U
Thallium	2.7	UJ	2.8	UJ	3	UJ	2.9	UJ
Vanadium	40.1		4.5	J	52.6		7.7	
Zinc	30.6		13.5		1,300		29.7	

Notes:

*Duplicate of SS-12

All values are presented in milligrams per kilogram (mg/kg).

Values in boldface indicate a detected reportable value

NL = Not listed

J = Analyte present reported value may not be accurate or precise.

U = Not detected.

UI = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise

CLP Number = Contract Laboratory Program Sample Identifier Number

SB = Soil Boring Sample

3.5 WATER SAMPLING

3.5.1 RESIDENTIAL WELL SAMPLING

EPA and the Unified Command had originally identified 45 parcels for potential sampling. WESTON collected groundwater samples from 13 residential locations, 1 in April, 11 in May, and 1 additional sample parcel, which was added at the request of the resident in July 2018. The status of the identified parcels is presented in the following table.

Table 6 Parcel Sampling Status Summary Table – April, May, and July
Sampling Rounds

Parcel Status	Count
Residential Wells Sampled	12
Added and sampled at request of resident	1
Declined sampling	5
No answer	9
Vacant residences	6
No house on parcel	10
Removed from list by OSC	3

All residential well samples were collected in accordance with WESTON SOP No. 202, Residential Groundwater Sampling (WESTON, 2015c). At each sampling location, WESTON purged the well for at least 15 minutes before collecting the sample. Samples from all residential wells were collected from as close to the well head as reasonably possible prior to any filtration system. Samples were submitted for TCL VOCs, TCL SVOCs, PCBs, and TAL metals analysis. Figure 8 displays the sample locations of each residential well sample in relation to the Site.

3.5.2 MONITORING WELL SAMPLING

WESTON had originally planned to install and sample temporary groundwater monitoring wells to sample for VOCs, SVOCs, PCBs, and total and dissolved TAL metals, including mercury, analyses, using micropurge sampling techniques. However, groundwater was not encountered at any soil boring locations; therefore, monitoring wells were not installed.

On July 23, 2018, WESTON collected static water levels from the four existing monitoring wells located near the former convenience store. It was determined that these monitoring wells were installed during a previous site investigation conducted by Hurt & Proffitt in January 2018. On July 25, 2018, WESTON collected grab groundwater samples from all monitoring wells using polyethylene bailers. A groundwater sample was collected from each of the four monitoring wells and submitted for laboratory analysis of VOCs, SVOCs, PCBs, and total and dissolved TAL metals, including mercury.

3.5.3 GROUNDWATER SAMPLING RESULTS

This section summarizes the analytical results for the samples collected at the Site by WESTON during the sampling events and assessment.

Table 7 shows the analytical results of the drinking water samples collected from the residences. Laboratory results for water samples were compared to the EPA MCLs (EPA, 2018a) for compounds in drinking water. VOCs were detected in six samples above the MCLs for TCE (20 µg/l to 160 µg/l) and PCE (11 µg/l to 17 µg/l). Concentrations of metals were not detected above applicable MCLs. SVOCs and PCBs were not detected in the drinking water samples.

Table 8 shows the analytical results of the groundwater samples collected from the monitoring wells. PCE was detected in MW01 at a concentration of 0.22 µg/l; TCE was not detected in any of the groundwater samples collected from the monitoring wells. Concentrations of metals were not detected above applicable MCLs. SVOCs and PCBs were not detected in the drinking water samples.

4.0 OFF-SITE MIGRATION RESULTS SUMMARY

4.1 OFF-SITE MIGRATION RESULTS SUMMARY

With the addition of the groundwater plume investigation, surface locations were screened and sampled to determine whether off-site migration of surface contaminants is occurring. Given the history of metal recycling at the Site, metals were referenced to assess the off-site migration of surface contaminants. Samples were collected for metals analysis from surface soil location SS12

and sediment location SS01 to assess surface soil runoff from the Site downgradient to the pond through the stormwater drainage pipe that runs east to west under L.P. Bailey Memorial Highway, as shown on Figure 7. At SS12, lead was detected at lead at 726 mg/kg; and a duplicate sample showed a detection of 751 mg/kg lead. In situ XRF screening for lead detected lead at 11 to 122 mg/kg off the Site to the north, as shown on Figure 7. The pond sediment sample showed a lead concentration of 64.8 mg/kg and an arsenic concentration of 2.5 mg/kg. Lead was not detected in the pond surface water sample SW01; however, arsenic was detected at an estimated 0.46 mg/kg.

4.2 GROUNDWATER PLUME INVESTIGATION

Groundwater sampling of 13 residential wells and 4 monitoring wells was conducted in May and July 2018 in the vicinity of the Shiloh Church Rd Site. The results are presented on Table 7 and Table 8, respectively. The wells were sampled for VOCs, SVOCs, metals, and PCBs to assess the nature of the groundwater quality in the area. Based upon a review of the results, it appears that a small VOC plume, consisting primarily of elevated TCE levels, exists in the direct vicinity of residential wells RW-04, RW-12, RW-02 and RW-11. As shown on Figure 8, these wells contained TCE levels ranging from 20 µg/L to 160 µg/L, exceeding the EPA drinking water MCL of 5 µg/L.

Based upon the inferred northwesterly direction of local groundwater flow in the area, an apparent source of TCE may exist in the vicinity of residential wells RW-04 and RW-02. Well RW-4 contained the most elevated TCE concentration detected in any of the wells, which suggests it is in proximity to a potential release/source of VOC compounds. The northernmost soil boring BH-19, sampled during the recent Phase II Environmental Site Assessment (January 2018), contained the highest TCE soil concentration (1,580 µg/kg) of any of the Phase II borings (Hurt & Proffitt, 2018). The VOC results from BH-19, collected from 17-20 ft below grade, appear to be anomalous and isolated from the remaining Phase II boring results, which showed little or no significant detections of VOCs. These data may support the existence of a residual source of VOCs in this general area.

Table 7
Residential Wells Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID: CLP Number: Location Number: Type of Analysis: Matrix: Units: Date Sampled:	SC-042718-001 COAA1 001 Total Drinking Water µg/L 27-Apr-18	SC-042718-001-D COAA2 001 Total Drinking Water µg/L 27-Apr-18	SCR-0518-RW-001 COAAO RW-001 Total Drinking Water µg/L 15-May-18	*SCR-0518-RW-001D COAA1 RW-001 Total Drinking Water µg/L 15-May-18	SCR-0518-RW-002 COAA2 RW-002 Total Drinking Water µg/L 15-May-18	SCR-0518-RW-003 COAA3 RW-003 Total Drinking Water µg/L 16-May-18	SCR-0518-RW-004 COAA4 RW-004 Total Drinking Water µg/L 17-May-18						
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	1.7
1,1,2-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	2.4
1,2,4-trichlorobenzene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.2	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.05	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	600	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.34	J	0.5	U
1,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	75	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.83	U	0.5	U
Dibromochloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	700	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	100	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	5	12		12		11		12		3.1		0.5	U
Toluene	1000	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	0.5	U	0.5	U	0.62		0.62		21		0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Legend:

Highlighted values indicate an exceedance of the MCL.

µg/L = micrograms per liter

MCL = EPA Maximum Contaminant Level

NL = Not listed

NR = Not reported by lab.

CLP Number = Contract Laboratory Program Sample Identifier Number

RW = Residential Well

U = Analyte was analyzed for but was not detected at a level greater than or equal to

J = Analyte was positively identified and the associated numerical value is the

approximate concentration of the analyte in the sample

UJ = Not detected quantitation limit may be inaccurate or imprecise.

*Duplicate of 001

*Duplicate of RW-001

Table 7
Residential Wells Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID:	SCR-0518-RW-005	SCR-0518-RW-006	SCR-0518-RW-007	SCR-0518-RW-008	SCR-0518-RW-010	SCR-0518-RW-011					
CLP Number:	COAA5	COAA6	COAA7	COAA8	COAB2	COAB3					
Location Number:	RW-005	RW-006	RW-007	RW-008	RW-010	RW-011					
Type of Analysis:	Total	Total	Total	Total	Total	Total					
Matrix:	Drinking Water										
Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
Date Sampled:	16-May-18	16-May-18	16-May-18	16-May-18	16-May-18	17-May-18					
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	0.48	J
1,2,4-trichlorobenzene	70	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
1,2-Dibromo-3-chloropropane	0.2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	600	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
1,2-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	75	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
Benzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
Chloroform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	0.78
Dibromochloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	700	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	100	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
Tetrachloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	2.2
Toluene	1000	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
trans-1,2-Dichloroethene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	0.33	J	0.5	U	0.5	U	0.5	U	0.5	UJ
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Legend:

Highlighted values indicate an exceedance of the MCL.
µg/L = micrograms per liter
MCL = EPA Maximum Contaminant Level
NL = Not listed
NR = Not reported by lab.
CLP Number = Contract Laboratory Program Sample Identifier Number
RW = Residential Well
U = Analyte was analyzed for but was not detected at a level greater than or equal to
J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
UJ = Not detected quantitation limit may be inaccurate or imprecise.

Table 7
Residential Wells Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID	SCR-0518-RW-012	SCR-072518-RW-013	SCR-072518-RW-013D	SC-042718-TB	SCR-0518-TB-001	SCR-0518-TB-002					
CLP Number	COAB4	COAC3	COAC4	COAA0	COAB0	COAB1					
Location Number	RW-012	RW-013	RW-013	Trip Blank	Trip Blank	Trip Blank					
Type of Analysis	Total	Total	Total	Total	Total	Total					
Matrix	Drinking Water	Drinking Water	Drinking Water	Trip Blank	Trip Blank	Trip Blank					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
Date Sampled	17-May-18	25-Jul-18	25-Jul-18	27-Apr-18	15-May-18	17-May-18					
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	200	0.55		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	7	2		0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-trichlorobenzene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.2	0.5	U	0.5	U	0.5	U	1	U	0.5	U
1,2-Dibromoethane	0.05	0.5	U	0.5	U	0.5	U	1	U	0.5	U
1,2-Dichlorobenzene	600	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	5	1.8		0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	75	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.98		0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	700	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	100	0.5	U	0.5	U	0.5	U	1	U	0.5	U
Tetrachloroethene	5	2.7		0.5	U	0.5	U	0.5	U	0.5	U
Toluene	1000	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	130		0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

*Duplicate of RW-013

Legend:

Highlighted values indicate an exceedance of the MCL.

µg/L = micrograms per liter

MCL = EPA Maximum Contaminant Level

NL = Not listed

NR = Not reported by lab.

CLP Number = Contract Laboratory Program Sample Identifier Number

RW = Residential Well

U = Analyte was analyzed for but was not detected at a level greater than or equal to

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

UJ = Not detected quantitation limit may be inaccurate or imprecise.

Table 7
Residential Wells Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No. W501-18-04-005
Contract No. EP-S3-15-02
DCN W0206.1A.02495

Analyte	MCL ($\mu\text{g/L}$)	Field Sample ID		SCR-0518-RW-001		*SCR-0518-RW-001D		SCR-0518-RW-002		SCR-0518-RW-003		SCR-0518-RW-004		SCR-0518-RW-005		SCR-0518-RW-006	
		Type of Analysis	Matrix	COAA0 Total Drinking Water $\mu\text{g/L}$ 15-May-18		COAA1 Total Drinking Water $\mu\text{g/L}$ 15-May-18		COAA2 Total Drinking Water $\mu\text{g/L}$ 15-May-18		COAA3 Total Drinking Water $\mu\text{g/L}$ 16-May-18		COAA4 Total Drinking Water $\mu\text{g/L}$ 17-May-18		COAA5 Total Drinking Water $\mu\text{g/L}$ 16-May-18		COAA6 Total Drinking Water $\mu\text{g/L}$ 16-May-18	
				Date Sampled	Result	Flag											
1,1-Biphenyl	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
1,2,4,5-Tetrachlorobenzene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
1,4-Dioxane	NL	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2,2-oxybis(1-Chloropropane)	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,3,4,6-Tetrachlorophenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2,4,5-Trichlorophenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2,4-Dichlorophenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2,4-Dimethylphenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2,4-Dinitrophenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2,6-Dinitrotoluene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2-Chloronaphthalene	NL	5	U	5.1	U												
2-Chlorophenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2-Methylnaphthalene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2-Methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
2-Nitrophenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
3,3-Dichlorobenzidine	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
4-Chloro-3-methylphenol	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
4-Chloroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
4-Methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitrophenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Acenaphthylene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Acetophenone	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Atrazine	3.0	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzaldehyde	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Benzo(a)pyrene	0.2	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Benzo(b)fluoranthene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Benzo(g,h,i)perylene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Benzo(k)fluoranthene	NL	5	U	5.1	U												
Bis(2-Chloroethoxy)methane	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Bis(2-Chloroethyl)ether	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	6.0	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Butylbenzylphthalate	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Caprolactam	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Dibenzo(a,h)anthracene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Dibenzofuran	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Diethylphthalate	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Dimethylphthalate	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Di-n-butylphthalate	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Di-n-octyl phthalate	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Hexachlorobenzene	1.0	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Hexachlorobutadiene	NL	5	U	5.1	U												
Hexachlorocyclopentadiene	50	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Indeno(1,2,3-cd)pyrene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Isophorone	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Naphthalene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Nitrobenzene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
N-Nitroso-di-n-propylamine	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
N-Nitrosodiphenylamine	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Pentachlorophenol	1.0	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenanthrene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
Phenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	NL	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U

Legend:
*Duplicate of RW-001

$\mu\text{g/L}$ = micrograms per liter

NR = Not reported by lab.

Blank cells indicate analyte was not reported.

CLP Number = Contract Laboratory Program Sample Identifier Number

RW = Residential Well

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

Table 7
Residential Wells Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No. W501-18-04-005
Contract No. EP-S3-15-02
DCN W0206.1A.02495

Analyte	MCL ($\mu\text{g/L}$)	Field Sample ID		SCR-0518-RW-007		SCR-0518-RW-008		SCR-0518-RW-010		SCR-0518-RW-011		SCR-0518-RW-012		SCR-072518-RW-013		SCR-072518-RW-013D	
		Type of Analysis	Matrix Units	COAA7 Total		COAA8 Total		COAB2 Total		COAB3 Total		COAB4 Total		COAC3 Total		COAC4 Total	
				Drinking Water $\mu\text{g/L}$	16-May-18	Drinking Water $\mu\text{g/L}$	16-May-18	Drinking Water $\mu\text{g/L}$	16-May-18	Drinking Water $\mu\text{g/L}$	17-May-18	Drinking Water $\mu\text{g/L}$	17-May-18	Drinking Water $\mu\text{g/L}$	17-May-18	Drinking Water $\mu\text{g/L}$	25-Jul-18
1,1-Biphenyl	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5.1	U	5	U	5	U
1,2,4,5-Tetrachlorobenzene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5.1	U	5	U	5	U
1,4-Dioxane	NL	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2,2-oxypyis(1-Chloropropane)	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,3,4,6-Tetrachlorophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5.1	U	5	U	5	U
2,4,6-Trichlorophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5.1	U	5	U	5	U
2,4-Dichlorophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5.1	U	5	U	5	U
2,4-Dimethylphenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2,4-Dinitrophenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2,6-Dinitrotoluene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2-Chloronaphthalene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2-Chlorophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2-Methylnaphthalene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2-Methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
2-Nitrophenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
3,3-Dichlorobenzidine	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
4-Chloro-3-methylphenol	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
4-Chloroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
4-Methylphenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitrophenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Acenaphthylene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Acetophenone	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Atrazine	3.0	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzaldehyde	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benz(a)anthracene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Benz(a)pyrene	0.2	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Benz(b)fluoranthene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Benz(g,h,i)perylene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Benz(k)fluoranthene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Bis(2-Chloroethyl)methane	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Bis(2-Chloroethyl)ether	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	6.0	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Butylbenzylphthalate	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Caprolactam	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Dibenzofuran	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Diethylphthalate	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Dimethylphthalate	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Di-n-butylphthalate	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Di-n-octyl phthalate	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Hexachlorobenzene	1.0	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Hexachlorobutadiene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	50	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Indeno[1,2,3-cd]pyrene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Isophorone	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Naphthalene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Nitrobenzene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
N-Nitroso-di-n-propylamine	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Pentachlorophenol	1.0	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenanthrene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U
Phenol	NL	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	NL	5.1	U	5	U	5.1	U	5	U	5.1	U	5	U	5	U	5	U

*Duplicate of RW-013

$\mu\text{g/L}$ = micrograms per liter

NR = Not reported by lab.

Blank cells indicate analyte was not reported.

CLP Number = Contract Laboratory Program Sample Identifier Number

RW = Residential Well

U = Analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

Table 7
Residential Wells Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID:	SCR-0518-RW-001	*SCR-0518-RW-001D	SCR-0518-RW-002	SCR-0518-RW-003	SCR-0518-RW-004	SCR-0518-RW-005	SCR-0518-RW-006				
CLP Number:	COAA0	COAA1	COAA2	COAA3	COAA4	COAA5	COAA6				
Location Number:	RW-001	RW-001	RW-002	RW-003	RW-004	RW-005	RW-006				
Type of Analysis:	Total	Total	Total	Total	Total	Total	Total				
Matrix:	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water				
Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
Date Sampled:	15-May-18	15-May-18	15-May-18	16-May-18	17-May-18	16-May-18	16-May-18				
Analyte	MCL µg/L	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1221	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1232	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1242	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1248	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1254	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1260	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1262	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U
Aroclor-1268	0.5	1.04	U	1.04	U	1.03	U	1.05	U	1.04	U

Legend:

µg/L = micrograms per liter

NR = Not reported by lab.

CLP Number = Contract Laboratory Program Sample Identifier Number

RW = Residential Well

U = Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

*Duplicate of RW-001

Table 7
Residential Wells Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID:	SCR-0518-RW-007	CLP Number:	COAA7	Location Number:	RW-007	Type of Analysis:	Total	Matrix:	Drinking Water	Units:	µg/L	Date Sampled:	16-May-18	SCR-0518-RW-008	COAA8	SCR-0518-RW-010	COAB2	SCR-0518-RW-011	COAB3	SCR-0518-RW-012	COAB4	SCR-072518-RW-013	COAC3	SCR-072518-RW-013D	COAC4
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag		
Aroclor-1016	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1221	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1232	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1242	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1248	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1254	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1260	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1262	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		
Aroclor-1268	0.5	1.04	U	1.06	U	1.05	U	1.03	U	1.08	U	1	U	1	U	1	U	1	U	1	U	1	U		

*Duplicate of RW-013

Legend:

µg/L = micrograms per liter

NR = Not reported by lab.

CLP Number = Contract Laboratory Program Sample Identifier Numbr

RW = Residential Well

U = Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

Table 7
Residential Wells Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A 02495

Field Sample ID: CLP Number: Location Number: Type of Analysis: Matrix: Units: Date Sampled:	SCR-0518-RW-001 MCOAA0 RW-001 Total Metals Drinking Water µg/L 15-May-18	*SCR-0518-RW-001D MCOAA1 RW-001D Total Metals Drinking Water µg/L 15-May-18	SCR-0518-RW-002 MCOAA2 RW-002 Total Metals Drinking Water µg/L 15-May-18	SCR-0518-RW-003 MCOAA3 RW-003 Total Metals Drinking Water µg/L 15-May-18	SCR-0518-RW-004 MCOAA4 RW-004 Total Metals Drinking Water µg/L 16-May-18	SCR-0518-RW-005 MCOAA5 RW-005 Total Metals Drinking Water µg/L 17-May-18	SCR-0518-RW-006 MCOAA6 RW-006 Total Metals Drinking Water µg/L 16-May-18									
Analyte	MCL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag			
Aluminum	NS	20	U	20	U	20	U	172		20	U	20	U			
Antimony	6	0.21	J	2	U	2	U	2	U	2	U	2	U			
Arsenic	10	1	U	1	U	1	U	1	U	1	U	1	U			
Barium	2,000	18.1		18.5		41.3		28.7		32.5		16.4		79.1		
Beryllium	4	1	U	1	U	1	U	0.2	J	1	U	1	U	1	U	
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	0.15	J	
Calcium	NS	3020		3150		4380		3640		3800		8970		14900		
Chromium	100	2	U	2	U	2	U	2	U	2	U	6.7		2	U	
Cobalt	NS	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Copper	1,300	114		124		32.6		24.2		100		22		16		
Iron	NS	246		208		25.6	J	183	J	17.7	J	153	J	27.7	J	
Lead	15	2	9	2.7		2.4		2		2.4		1.2		1	5	
Magnesium	NS	702		734		928		546		994		5680		1460		
Manganese	NS	3.4		3.3		4.1		3.5		2.6		1.2		2	9	
Mercury	2	0	2	UJ	0	2	UJ	0.2	UJ	0.2	UJ	0.2	UJ	0	2	UJ
Nickel	NS	0.47	J	0.44	J	0.39	J	0.23	J	0.12	J	1.4		0.45	J	
Potassium	NS	1530		1580		2070		1690		2060		972		1890		
Selenium	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	
Silver	NS	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Sodium	NS	5390	J	5570	J	6880	J	5710	J	6110	J	4360	J	7570	J	
Thallium	2	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ	
Vanadium	NS	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ	
Zinc	NS	10.8		10.9		23.5		25.8		24.1		14		76.6		
Cyanide	200	10	U	10	U	10	U	10	U	10	U	10	U	10	U	

Notes

*Duplicate of RW-001

All values are presented in micrograms per liter (µg/L).

MCL Maximum contaminant level from "National Primary and Secondary Drinking Water Regulations" (U.S. Environmental Protection Agency, 2018).

Values in yellow indicate an exceedance of the MCL.

NS No standard.

J Analyte present, reported value may not be accurate or precise.

U Not detected.

UJ The analyte was not detected at a level greater than or equal to the adjusted Contract Required Quantitation Limit (CRQL). However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

CLP Number Contract Laboratory Program Sample Identifier Number

RW Residential Well

Table 7
Residential Wells Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A 02495

Field Sample ID: CLP Number: Location Number: Type of Analysis: Matrix: Units: Date Sampled:	SCR-0518-RW-007 MCOAA7 RW-007 Total Metals Drinking Water µg/L 16-May-18	SCR-0518-RW-008 MCOAA8 RW-008 Total Metals Drinking Water µg/L 16-May-18	SCR-0518-RW-010 MCOAB2 RW-010 Total Metals Drinking Water µg/L 16-May-18	SCR-0518-RW-011 MCOAB3 RW-011 Total Metals Drinking Water µg/L 17-May-18	SCR-0518-RW-012 MCOAB4 RW-012 Total Metals Drinking Water µg/L 17-May-18	SCR-072518-RW-013 MCOAB3 RW-013 Total Metals Drinking Water µg/L 25-Jul-18	SCR-072518-RW-013D MCOAB4 RW-013D Total Metals Drinking Water µg/L 25-Jul-18						
Analyte	MCL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aluminum	NS	20	U	20	U	20	U	20	U	20	U	20	U
Antimony	6	2	U	2	U	2	U	2	U	2	U	2	U
Arsenic	10	1	U	1	U	1	U	1	U	2	U	1	U
Barium	2,000	54.3		29.4		49		10	U	39.8		45.7	
Beryllium	4	1	U	1	U	1	U	0.23	J	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	NS	9580		14500		21200		192	J	10400		1610	J
Chromium	100	2	U	2	U	2	U	2	U	4	UJ	2	UJ
Cobalt	NS	1	U	1	U	1	U	1	U	1	UJ	1	UJ
Copper	1,300	11		12	J	4.4		3.5		11.5		32	J
Iron	NS	529		90.5	J	24	J	24.2	J	25.5	J	4	J
Lead	15	1	U	1	U	1	U	1	U	1.3		1.4	
Magnesium	NS	1770		3290		2380		500	U	2130		500	U
Manganese	NS	2.2		1	U	1	U	0.46	J	2.1		10.1	
Mercury	2	0.2	UJ	0.2	UJ	0.2	UJ	0.2	UJ	0.2	U	0.2	U
Nickel	NS	0.22	J	0.23	J	0.34	J	0.099	J	0.24	J	0.16	J
Potassium	NS	1700		1820		2050		711		2280		1970	
Selenium	50	5	U	5	U	5	U	5	U	5	U	10	U
Silver	NS	1	U	1	U	1	U	1	U	0.015	J	0.017	J
Sodium	NS	8080	J	10600	J	7770	J	36900	J	9490	J	5350	
Thallium	2	1	UJ	1	UJ	1	UJ	1	UJ	1	U	1	U
Vanadium	NS	5	UJ	5	UJ	5	UJ	5	UJ	10	U	5	U
Zinc	NS	43.7		29.3		9.5		7		18.6		29.5	J
Cyanide	200	10	U	10	U	10	U	10	U	10	U	Not sampled	

Notes

All values are presented in micrograms per liter (µg/L).

MCL Maximum contaminant level from "National Primary and Secondary Drinking Water Regulations" (U.S. Environmental Protection Agency, 2018).

Values in yellow indicate an exceedance of the MCL.

NS No standard.

J Analyte present, reported value may not be accurate or precise.

U Not detected.

UJ The analyte was not detected at a level greater than or equal to the adjusted Contract Required Quantitation Limit (CRQL). However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

CLP Number Contract Laboratory Program Sample Identifier Number

RW Residential Well

*Duplicate of RW-013

Table 8
Monitoring Well Results - VOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	MW01-00	MW02-00	MW03-00	MW04-00	MW01-04				
CLP Number:	COAD3	COAD4	COAD5	COAD6	COAD7				
Location Number:	MW01	MW02	MW03	MW04	Trip Blank				
Type of Analysis:	VOCs	VOCs	VOCs	VOCs	VOCs				
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water				
Units:	µg/L	µg/L	µg/L	µg/L	µg/L				
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18				
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	0.5	U	0.5	U	0.34	J	0.5	U
1,1-Dichloroethene	NL	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	NL	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-trichlorobenzene	70	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	0.2	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane	0.05	1.2		0.5	U	0.28	J	0.5	U
1,2-Dichlorobenzene	600	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	5	1.9		0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	NL	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	75	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone	NL	5	U	5	U	5	U	5	U
2-Hexanone	NL	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	NL	5	U	5	U	5	U	5	U
Acetone	NL	5	U	5	U	5.2		5	U
Benzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Bromochloromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	80	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide	NL	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	80	0.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	NL	0.5	U	0.5	U	0.5	U	0.5	U
Cyclohexane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	80	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	700	1.2		0.5	U	0.5	U	0.5	U
Isopropylbenzene	NL	0.5	U	0.5	U	0.5	U	0.5	U
m,p-Xylene	NL	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Acetate	NL	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl Ether	NL	15		0.5	U	0.5	U	0.5	U
Methylcyclohexane	NL	0.38	J	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	NL	2.7		0.5	U	0.5	U	0.5	U
Styrene	100	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	5	0.22	J	0.5	U	0.5	U	0.5	U
Toluene	1000	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	100	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	NL	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	NL	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U

Legend:

µg/L micrograms per liter

All values are presented in micrograms per liter (µg/L).

Highlighted values indicate an exceedance of the MCL.

Boldfaced values indicate a detected result.

MCL EPA Maximum Contaminant Level

NL Not listed

CLP Number Contract Laboratory Program Sample Identifier Number

MW Monitoring Well

U Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 8
Monitoring Well Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-):	MW01-00	MW02-00	MW03-00	MW04-00					
CLP Number:	COAD3	COAD4	COAD5	COAD6					
Location Number:	MW01	MW02	MW03	MW04					
Type of Analysis:	SVOCs	SVOCs	SVOCs	SVOCs					
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water					
Units:	µg/L	µg/L	µg/L	µg/L					
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18					
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1-Biphenyl	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
1,2,4,5-Tetrachlorobenzene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
1,4-Dioxane	NL	2.2	UJ	2	UJ	2.2	UJ	2.2	UJ
2,2-oxybis(1-Chloropropane)	NL	11	UJ	10	UJ	11	UJ	11	UJ
2,3,4,6-Tetrachlorophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,4,5-Trichlorophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,4,6-Trichlorophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,4-Dichlorophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,4-Dimethylphenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,4-Dinitrophenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
2,4-Dinitrotoluene	NL	6	UJ	5	UJ	5.6	UJ	5.6	UJ
2,6-Dinitrotoluene	NL	6	UJ	5	UJ	5.6	UJ	5.6	UJ
2-Chloronaphthalene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2-Chlorophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2-Methylnaphthalene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2-Methylphenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
2-Nitroaniline	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
2-Nitrophenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
3,3-Dichlorobenzidine	NL	11	UJ	10	UJ	11	UJ	11	UJ
3-Nitroaniline	NL	11	UJ	10	UJ	11	UJ	11	UJ
4,6-Dinitro-2-methylphenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
4-Bromophenyl-phenylether	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
4-Chloro-3-methylphenol	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
4-Chloroaniline	NL	11	UJ	10	UJ	11	UJ	11	UJ
4-Chlorophenyl-phenylether	NL	6	UJ	5	UJ	5.6	UJ	5.6	UJ
4-Methylphenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
4-Nitroaniline	NL	11	UJ	10	UJ	11	UJ	11	UJ
4-Nitrophenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
Acenaphthene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Acenaphthylene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Acetophenone	NL	11	UJ	10	UJ	11	UJ	11	UJ
Anthracene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Atrazine	3	11	UJ	10	UJ	11	UJ	11	UJ
Benzaldehyde	NL	11	UJ	10	UJ	11	UJ	11	UJ
Benzo(a)anthracene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Benzo(a)pyrene	0.2	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Benzo(b)fluoranthene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Benzo(g,h,i)perylene	3	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Benzo(k)fluoranthene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Bis(2-Chloroethoxy)methane	NL	6	UJ	5	UJ	5.6	UJ	5.6	UJ
Bis(2-Chloroethyl)ether	NL	11	UJ	10	UJ	11	UJ	11	UJ
Bis(2-ethylhexyl)phthalate	6	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Butylbenzylphthalate	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Caprolactam	NL	11	UJ	10	UJ	11	UJ	11	UJ
Carbazole	NL	11	UJ	10	UJ	11	UJ	11	UJ
Chrysene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Dibenzo(a,h)anthracene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Dibenzofuran	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Diethylphthalate	NL	6	UJ	5	UJ	5.6	UJ	5.6	UJ
Dimethylphthalate	NL	5.6	UJ	5	UJ	3.7	J	5.6	UJ
Di-n-butylphthalate	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Di-n-octyl phthalate	NL	11	UJ	10	UJ	11	UJ	11	UJ
Fluoranthene	NL	11	UJ	10	UJ	11	UJ	11	UJ
Fluorene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Hexachlorobenzene	1	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Hexachlorobutadiene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Hexachlorocyclopentadiene	50	11	UJ	10	UJ	11	UJ	11	UJ
Hexachloroethane	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Indeno(1,2,3-cd)pyrene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Isophorone	NL	5.6	UJ	5	UJ	4.8	J	5.6	UJ

Table 8
Monitoring Well Results - SVOCs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-):	MW01-00	MW02-00	MW03-00	MW04-00					
CLP Number:	COAD3	COAD4	COAD5	COAD6					
Location Number:	MW01	MW02	MW03	MW04					
Type of Analysis:	SVOCs	SVOCs	SVOCs	SVOCs					
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water					
Units:	µg/L	µg/L	µg/L	µg/L					
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18					
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Naphthalene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Nitrobenzene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
N-Nitroso-di-n-propylamine	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
N-Nitrosodiphenylamine	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Pentachlorophenol	1	11	UJ	10	UJ	11	UJ	11	UJ
Phenanthere	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ
Phenol	NL	11	UJ	10	UJ	11	UJ	11	UJ
Pyrene	NL	5.6	UJ	5	UJ	5.6	UJ	5.6	UJ

Legend:

µg/L micrograms per liter

All values are presented in micrograms per liter (µg/L).

Highlighted values indicate an exceedance of the MCL.

Boldfaced values indicate a detected result.

MCL EPA Maximum Contaminant Level

NL Not listed

CLP Number Contract Laboratory Program Sample Identifier Number

MW Monitoring Well

U Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

J Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Table 8
Monitoring Well Results - PCBs
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

TDD No.: W501-18-04-005
Contract No.: EP-S3-15-02
DCN: W0206.1A.02495

Field Sample ID (beginning with SCR-0718-)	MW01-00	MW02-00	MW03-00	MW04-00					
CLP Number:	COAD3	COAD4	COAD5	COAD6					
Location:	MW01	MW02	MW03	MW04					
Type of Analysis:	Total	Total	Total	Total					
Matrix:	Ground Water	Ground Water	Ground Water	Ground Water					
Units:	µg/L	µg/L	µg/L	µg/L					
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18					
Analyte	MCL (µg/L)	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1221	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1232	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1242	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1248	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1254	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1260	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1262	0.5	1.1	U	1	U	1.1	U	1	U
Aroclor-1268	0.5	1.1	U	1	U	1.1	U	1	U

Legend:

µg/L = micrograms per liter

All values are presented in micrograms per liter (µg/L).

Highlighted values indicate an exceedance of the MCL.

Boldfaced values indicate a detected result.

MCL = EPA Maximum Contaminant Level

NL = Not listed

CLP Number = Contract Laboratory Program Sample Identifier Number

MW = Monitoring Well

U = Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

Table 8
Monitoring Well Results - Metals
Shiloh Church Road Site
Nathalie, Halifax County, Virginia

Field Sample ID (beginning with SCR-) CLP Number: Location: Location Number: Type of Analysis: Matrix: Units:	MW01-00 MC0AD3 Former Store MW01 Total Metals Ground Water µg/L	MW01-03 MC39Y1 Former Store MW01 Dissolved Metals Ground Water µg/L	MW02-00 MC0AD4 Former Store RW002 Total Metals Ground Water µg/L	MW02-03 MC39Y2 Former Store RW002 Dissolved Metals Ground Water µg/L	MW03-00 MC0AD5 Former Store RW003 Total Metals Ground Water µg/L	MW03-03 MC39Y3 Former Store RW003 Dissolved Metals Ground Water µg/L	MW04-00 MC0AD6 Former Store RW004 Total Metals Ground Water µg/L	MW04-03 MC39Y4 Former Store RW004 Dissolved Metals Ground Water µg/L					
Date Sampled:	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18					
Analyte	MCL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aluminum	NL	11800	J	7.5	J	9560	J	36	J	33000	J	8.6	J
Antimony	6	2	U	60	U	2	U	60	U	4	UJ	60	U
Arsenic	10	0.14	J	10	U	0.13	J	10	U	0.13	J	10	U
Barium	2,000	161	J	200	U	102	J	200	U	488	J	200	U
Beryllium	4	1.4	J	5	U	1	U	5	U	5	J	5	U
Cadmium	5	1	UJ	5	U	1	U	0.25	J	1.9	J	0.26	J
Calcium	NL	4740	J	4080	J	500	UJ	281	J	2370	J	2700	J
Chromium	100	2.5	J	10	U	2	UJ	10	U	2	UJ	10	U
Cobalt	NL	1.4	J	1.4	J	1	UJ	50	U	2.2	J	3.1	J
Copper	1,300	20.4	J	27.3		7.2	J	4	J	10.4	J	3.9	J
Iron	NL	26	J	100	U	10.1	J	100	U	44.8	J	100	U
Lead	15	74.9	J	10	U	74.6	J	10	U	309	J	10	U
Magnesium	NL	3430	J	303	J	2460	J	238	J	9440	J	904	J
Manganese	NL	176	J	76.7		293	J	132		424	J	411	
Mercury	2	0.72		0.11	J	0.031	J	0.2	U	0.43		0.045	J
Nickel	NL	1.4	J	0.6	J	1	UJ	0.86	J	1.2	J	1.4	J
Potassium	NL	2890	J	5000	U	2800	J	5000	U	6030	J	5000	U
Selenium	50	5	UJ	35	U	5	UJ	35	U	5	UJ	5	U
Silver	NL	0.14	J	10	U	0.25	J	10	U	1.1	J	10	U
Sodium	NL	6900	J	7510		6970	J	7750		4110	J	5360	
Thallium	2	1	U	25	U	1	U	25	U	1.7	J	25	U
Vanadium	NL	4.9	J	50	U	4.3	J	50	U	3.1	J	50	U
Zinc	NL	23.3	J	60	U	32.4	J	60	U	49.2	J	60	U

Legend:

µg/L = micrograms per liter

All values are presented in micrograms per liter (µg/L).

Highlighted values indicate an exceedance of the MCL.

Boldfaced values indicate a detected result.

MCL = EPA Maximum Contaminant Level

NL = Not listed

CLP Number = Contract Laboratory Program Sample Identifier Number

MW = Monitoring Well

U = Analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

J = Analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample

Non-responsive based on revised scope

5.0 REFERENCES

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APPENDIX A

SOIL BORING LOGS

WESTON SOLUTIONS, INC.		Drilling/Lithologic Log		PAGE / OF /
Job Name Site/Property	Shiloh Church Rd Nathalie, VA	Boring No. Well Type	SB-1	Groundwater Levels Date Depth
Date Drilled	7/31/8	Drilling Method	Geoprobe / DPT	
Drilling Company:	Jetcop	Completion Depth	52 (ft bgs)	
Drill Foreman :	Non-responsive based on revised scope	Location	Non-respondent	LP Bailey
Logged By:	Non-responsive based on revised scope	Drill Rig Type	G7120T	
Depth ft BGS	Drill Cuttings - Visual Description			Heated Headspace PID (ppm)
(0-5')	(0-5') 3" Brown topsoil, moist then reddish brown silty clay, mica to 5 feet bgs. no odors			Pph
SB-1	1-2' clay, mica to 5 feet bgs. no odors			XRF #3
1030				Pb-28.1 ppm
5	(5-10') Reddish brown silty clay, grades to tanish brown silt/clay / saprolite, dry, no odors			RAD-ND (not above Backgrnd)
10	and clayey silt brown silt/clay / saprolite, dry, no odors clayey silt w/ mica.			
15	(15-20') Same as above, w/ x saprolite, slight odor at SB-3 19-20' 1050 19-20'			1600- 2810 @ 19-20
20	(20-24') Same as above. Dry. Geoprobe refusal @ 24'			XRF-#4
25	Grades to Inter bedded Reddish brown and tan 50' 1255 Saprolite / w/ granite / schist			Pb-93 ppm
35	Observations based on HSA & 1' cuttings (24-35') Reddish brown to tanish brown silt/clay / Saprolite w/ schist. Slight odor. in Drill (HSA) Cutting			RAD-ND HHS. PID-1.8 @ 35' ppm
45	(35-50') Same as above, Damp + Soft at 49' slight odor.			PID 0.7 @ 40' ppm
SB-2	50' 1320			PID 0.6 @ 50' ppm
50	(50-52') Same as above; HSA Refusal @ 52'. soft between 49-51 ft. bgs.			
55	End of Boring @ 52 ft. bgs.			
-				
-				
-				
-				

WESTON SOLUTIONS, INC.

Drilling/Lithologic Log

PAGE / OF /

Job Name	Shiloh Church Rd	Boring No.	SB-8	Groundwater Levels	
Site/Property	Nathalie, VA	Well Type		Date	Depth
Date Drilled	8/1/18	Drilling Method	Geoprobe / DPT		
Drilling Company:	Tofro	Completion Depth	15 (ft bgs)		
Drill Foreman :	Non-responsive based on revised scope		Location	Non-responsive based on revised	
Logged By:		Drill Rig Type	GeoG721WT		

Drill Cuttings - Visual Description

		Pb
	0.0	
	XRF#13	
	Pb-44	
	PPM	
SB	8/1-2, 1300	Dry, no odors
5	(5-15) ft bgs.	Tannish brown clayey silt, saprolite, dry Wx-schist. No odors
		Refusal @ 15 ft. bgs.
10		
SB	8/14-15	
15	1310	
		RAD ND
		0.0
		XRF#14
		Pb-ND
		RAD-ND

APPENDIX B

VALIDATED ANALYTICAL RESULTS PACKAGES
